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Textile World

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The Man Who Knows

THIS month the industry has been harvesting one of its potentially most important crops: the graduating classes of the textile schools.

Quite frankly, we do not believe manufacturers, as a group, are particularly—or sufficiently—interested in this event. Certain individual mill-men have proved the exception to this rule. They keep in touch with the work at the schools throughout the year; they utilize the facilities of equipment and personnel; and they attempt to place graduates in their own plants or elsewhere.

But, by and large, the industry is apathetic.

The age-old debate on the technically-trained man vs. the rule-of-thumb man continues. One group still maintains that practical experience is the only background for mill management, while another group is confident that the day of empirical methods has passed.

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And, of course, both groups continue to be wrong.

Without entering into this fascinating academic discussion, it might be well to point out that conditions change while we are talking about them—and that the truth of yesterday becomes the fallacy of today. It wasn't so many years ago that the technically-trained man was a rarity among textile mills. Today he is too common to excite comment.

The broader opportunity offered him is due to the demand for the man who knows. This demand, in turn, is a result of the radical changes which have taken place in the industry. Each of the major trends manifested during recent years has brought with it a hurry-call for facts. The synthetic fiber impulse, the style changes in products, the modifications in equipment, the adventures into economic and technical research—all have put a premium on exact knowledge. There is still—and always will be—a place for the man who knows how to run a certain department because he *has* run it—but this man, under the ever-changing conditions, needs more and more the help of science.

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A writer in these columns recently expressed the opinion that a trained technician in a textile mill earns less than a laborer in many other industries. With certain qualifications and exceptions, this criticism is justified.

And yet, no industry needs that technician more than ours.

We believe that one of the causes of this anomaly is the fact that textile manufacturers, as a class, have not come to regard the function of textile education as one of the great forces in, and an integral part of, the industry. They have not contributed either criticism or support.

Until they do, the supply of "men who know" will be inadequate.

The Week in Textiles

Outlook . . .

COTTON GOODS men are beginning to hope that the worst is behind them; buyers are a little more interested and progress in curtailment is helping statistical position; actual business, however, lags. . . . . Wool goods interest centers on tropical weight goods with overcoatings slow and women's wear hesitant on styles for fall. . . . . Knitted outerwear is well placed with underwear not quite so well off. Hosiery men are working hard on crepe and grenadine twist lines. . . . . Silk goods have felt reaction of record low prices on raws but will doubtless improve by end of next month.

Spindle Hours Decline . . .

SPINDLE HOURS for May in the cotton industry as reported by Department of Commerce were 6,729,109,384, which figures to 83.6% of single shift capacity against 93.6% in April, 92.8% in March, 97.7% for February and 100.3% for January. For May, 1929, the figure was 110.9%. . . . . The recent May figures are as low as have been reported for some years and students of the field believe they must be held at that point or lower through the summer to make possible betterment in the fall.

They Wear Cotton . . .

NEARLY EVERY one of the 100 or more delegates at the Myrtle Beach meeting of the Cotton Manufacturers Association of South Carolina appeared wearing cotton suits. Cotton ducks, sail cloth, poplins, seersuckers, cotton crash and gabardine were in evidence on every hand. . . . . Tom Marchant, president of the association, was attired in a suit of white cotton crash with a small pin stripe. George Sloan, president of The Cotton-Textile Institute, wore a gabardine coat with white duck trousers. . . . . Cotton knickers were seen at the morning business session which made it evident that the wearers' minds were on the beautiful new golf course designed by Robert White.

Wool Goods Activity . . .

ACCORDING TO the Wool Institute, wool goods billings for May exceeded production by 172,000 yd. or about 4%. . . . . Production was 4% less than in April, which is accounted for largely by the Memorial Day recess. Stocks are practically the same, showing a change of only ½ of 1%. . . . . With billings exceeding production, the market is in more favorable balance, but activities should be closely watched with view to maintaining this advantageous trend, according to the advice given by the institute.

On the Boardwalk . . .

THE PLAYGROUND for millions of Americans, Atlantic City, offers a unique cross-section of the consuming public, and the number of permanent exhibits of nationally advertised products located along the boardwalk increases each season. . . . . Opposite the Steel Pier is found the attractive display and sales rooms of Aberfoyle fabrics, in charge of J. B. Honold, and featuring the new "Svelda" fabrics which are woven of Bemberg yarn by the Aberfoyle Mfg. Co. . . . . "Sanitas" wall coverings in many appropriate designs are effectively exhibited in a "five-room house" maintained by Standard Textile Products Co., on the Central Pier. . . . . In addition to the permanent exhibits and shops of several leading hosiery manufacturers, including Gotham Silk Hosiery Co., DuPont rayon yarns are featured in the cooperative exhibit operated by the various DuPont interests and located in the Haddon Hall building. . . . . Such exhibits are in reality laboratories for testing consumer acceptance and serve to determine what sales promotional activities should be most productive.

Testing New Army Cloth . . .

NEW KHAKI summer weight cloth has been developed by the Quartermaster Corps of the Army. . . . . Field tests of the cloth, with which a detachment of soldiers in Texas are soon to be outfitted, will show its reactions under actual service conditions. It is a narrow-twill cotton, weighing 6½ oz. to the yard, acceptable in widths from 28 to 36 inches. Its color resembles that of Chino cotton, or the Marine khaki.

Round Bales Preferred for Cotton . . .

WIDESPREAD ADOPTION of the round bale for packing and shipping cotton and the establishment of tare standards as a pre-requisite in net-weight trading in the staple were advocated recently by Arthur W. Palmer, chief of the cotton marketing division, U. S. Department of Agriculture. . . . . It was pointed out that since the round bale press, which prior to April 1 had been available only on license for use, is now offered for sale, more attention will undoubtedly be given to the round package. Inadequate protection of contents, lack of uniformity of weight of contents, lack of uniformity in weight of tare, difficulty in handling and greater danger from fire hazards were cited as disadvantages of the square bale. . . . . Mr. Palmer stated that hesitation on the part of cotton traders to approve the net weight principle unless coupled with some measure disclosing the actual tare on any bale at any time is understandable. Establishment of tare standards is a possibility.

Wages Studied by Specialists . . .

STUDIES OF wages and the so-called "incentive" systems of wage payment in recent months have attained more importance than ever before. . . . . Field work in the U. S. Department of Labor's study of wages and working hours in the rayon industry has been practically completed, according to a report from Washington, but it will be several months before its findings are published. Ethelbert Stewart, commissioner of labor statistics, states that it will furnish the ground work for more detailed and specialized studies that will follow. . . . . Another study, "Systems of Wage Payment," just completed by the National Industrial Con-

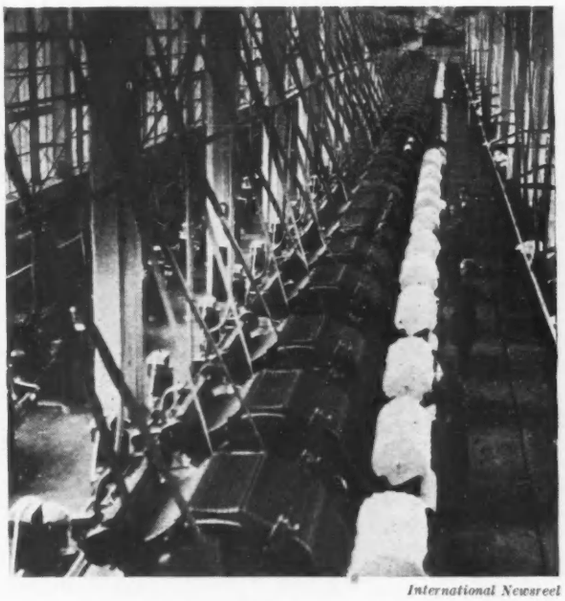
ference Board, clearly indicates that piece-rate wages, special bonuses and other methods of compensating employes according to output, where applicable, generally result in increased production, but such incentive wage systems cannot be indiscriminately applied to all types of work.

Shades for Fall and Winter . . .

CONSIDERABLE IMPORTANCE is accorded to browns and reds for the 1930 fall and winter seasons in the recent release of the Textile Color Card Association, which portrayed 80 new shades. . . . . Rose browns, rich mahogany tones and a gamme with slightly yellowish cast, were the most prominent members of the brown family. . . . . Among the novelty colors having special style significance are the rosy copper hues. . . . . The new colors, not to be confused with Pullman car names, but equally poetic to the ear, include such shades as roseheart, mountain berry, winetone, Chantilly gray, Buddha green, Montreux green, magnolia green, Alcantara, Firenze red, Calaban red, Acajou brown, Aloha, Kyoto blue, Winterblu, and Persian violet.

Avoid That Future Shadow! . . .

DECLARING THAT night operation is responsible for unsettled conditions in the cotton textile industry, T. M. Marchant, president of The Cotton Manufacturers Association of South Carolina, in his annual address at Myrtle Beach, S. C., asks his fellow executives one question of more than ordinary significance. . . . . "If voluntary cooperation cannot be secured," he says, "Would it not be more profitable to have uniform laws in all textile manufacturing States, prohibiting the working of women and minors at night, which would guarantee to you and your stockholders a fair return on their investment, putting you in position to pay higher wages to your employes, and lift this industry out of what is generally known as the 'low wage' class?" . . . . Obviously it would be more desirable for the industry to take voluntary steps that will establish its labor policies upon a sound and progressive basis. Failure to obtain the cooperation of the so-called unenlightened minority in matters of this kind, however, makes it necessary for the majority to await social legislation in order to enforce necessary regulation in the industry.



International Newsreel

A good customer for belting would be this cotton mill at Ivanovo Vosnesiensk, Russia. The view is in the carding department

Western Wool Moving Merrily . . .

TEXTILE MANUFACTURERS evidently are looking through the summer's haze to winter's chill, according to a report from the Northwest, for the all-time record wool movement from the interior of Washington, Oregon and Idaho to the East is well under way. . . . . No less than 22,000,000 lb. of this commodity is expected to pass over the waterfront in Portland, Ore., into ships' holds for delivery along the Atlantic seaboard, principally at Boston. . . . . In addition to the movement of the new clip, it is reported that about 1,000,000 lb. of old clip in storage in Portland will be appraised and transported to manufacturing centers.

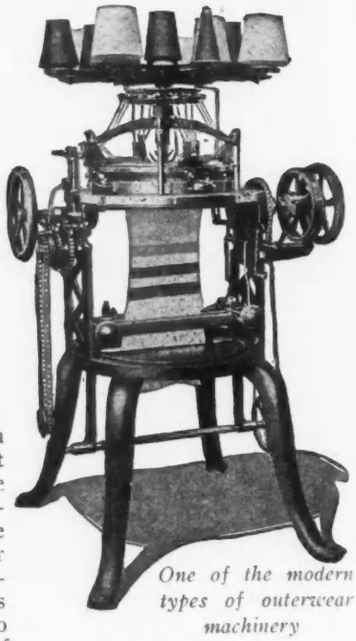
Machinery Survey Points the Way

THE STUDY of machinery conditions in Philadelphia knitted outerwear mills, conducted jointly by the National Knitted Outerwear Association and the U. S. Department of Commerce, is a pioneer experiment. The facts revealed and the interpretations placed thereon are not wholly conclusive and the manufacturers at their Toronto convention were quick to challenge the assertion of the investigators that much of the machinery now in operation, should have been scrapped ten years ago.

Both investigators and manufacturers, however, are in accord on the main thesis, which is that the trade does not pay enough attention to the relationship between the consuming market and the machine. Style obsolescence and obsolescence due to machinery improvements and new inventions, are vital factors in considering the equipment situation. The Philadelphia report, which appears in part on pages 32 and 33, supplies a foundation on which to build. The facts which it reveals show amazing indifference on the part of many manufacturers to the need for keeping machinery up-to-date.

This attitude is not confined to the outerwear group. The whole textile industry is even now revising and modernizing its policy on machinery. The outerwear survey is probably preliminary to more complete studies both in this and other divisions of the trade. Out of such statistics and data, a new and more effective machinery policy will be evolved.

Survey of Knit Outerwear Machinery Gives Data on Obsolescence



One of the modern types of outerwear machinery

THE study of the equipment of 32 mills in Philadelphia, producing sweaters, bathing suits, golf hose, etc., conducted by the Department of Commerce, has been published as "Domestic Commerce Series No. 35" and was released last week in connection with the annual meeting of the National Knitted Outerwear Association in Toronto, reported in this issue. The machinery survey indicates significant facts in connection with obsolescence study and suggests that there is much old machinery of which the industry might well be rid.

An abstract of the survey follows:

At the request of the National Knitted Outerwear Association, this study was undertaken by the U. S. Department of Commerce to obtain information for the purpose of enabling manufacturers of knitted outerwear to develop more scientific policies with regard to the scrapping and replacing of factory machinery, based not only on the comparative ability of various types and models of machines to produce products at present in vogue, but upon the relative costs of producing on various types and models of machines.

Thirty-two plants in Philadelphia were visited between Dec. 18, 1928, and April 8, 1929, in an effort to develop a complete inventory of the machinery in those plants. This inventory was found to include 1,153 circular knitting machines and 451 flat knitting machines.

Is There Excessive Capacity?

An effort was made to discover the degree of inactivity of the equipment studied; and it will be observed from Table A that out of 805 circular machines for which information is available, 416 operated 50% of the time, or less, during the second half of 1928, and only 226 machines operated normal full time or longer periods. A somewhat similar situation applied to the flat machines. This table suggests that the knitted-outerwear industry can probably produce two garments for every one sold, a condition which implies, among other things perhaps, that the industry has an excess of factory capacity.

The situation creates the possibility of a need for the most efficient sales methods to market the product of all the existing machinery, or some plan of reducing the excess capacity, if any part of it is caused by machines which are obsolete, antiquated, or otherwise unsuited for efficient production. The relation of idleness to the different sizes of machines is shown in Table B, and deserves careful study, because possibly there is less tendency to overcapacity in certain sizes than in others. Similarly, other tables [in the original report] show the relationship of idleness to other features of the machines, such as style and number of needles per inch. However, one must guard against too definite conclusions as to the tendency of certain sizes or styles of machinery to be more idle than others, for changes in the styles of sweaters, bathing suits, or even golf stockings, may at any time alter demand to such an extent as to change completely the situation indicated in the tables. Obviously this problem is complex, but it seems equally obvious that the manufacturers in this group will profit from a careful study of the manufacturing equipment to be found not only in their individual plants but also in the industry as a whole.

Table C raises a question as to whether it might not be possible to reduce the overhead costs of the industry by decreasing the variety of sizes or other features of machines employed, and whether, if this were done, it might not also serve to lower the costs of manufacturing such machinery through simplifying the problems of the machinery builders; that is, as a result of simplification, machinery manufacturers might find it unnecessary to produce such a wide range of equipment or to maintain as many repair parts and as great a servicing organization as are now needed. The variety of sizes of machines in use in Philadelphia is striking. It will be observed that among the circular machines 29 different sizes were in operation for the various diameters up to 36 in. Certainly there appears to be only a very limited demand for the 26-in., 32-in., and 36-in. diameters. Perhaps other sizes are also superfluous.

If one considers only those circular machines which operated full time, or over, as shown in Table B, it will be seen that the busy equipment includes mainly the 3-in. machines, those ranging in size from 11¼ to 21 in., and the 28-in.

Similarly, Table C shows that 31 widths of flat machines ranged from 2 to 100 in., but most of the machines were concentrated in 11 or 12 of these sizes, suggesting that perhaps one-half of these widths could be eliminated.

Is the Machinery Adequate?

After a complete inventory of the machinery in these 32 mills had been made, the question arose as to the effectiveness of this equipment. The information gathered in the survey, including data on the sort of fabric and garment being produced by each machine, was placed in the hands of a group of competent manufacturers thoroughly conversant with the details of all fabrics made and the details of all models of machinery available to the industry, in the hope that they could determine the extent to which each machine fell short of the best equipment available in the market for a given operation. They supplied a series of percentage ratings, summarized in Table D. These ratings represented their opinion as to the effectiveness of each machine in the survey.

While perhaps no two persons would agree in making an analysis of this kind, and consequently the work of any such committee can be criticized, it is at least striking to note the lowness of the ratings, particularly the lowness of the ratings given flat machinery. Seventy-nine per cent of the circular machines and 98% of the flat machines were rated 20% or below. Even though other persons studying the survey data might wish to alter materially the ratings established by this committee, these figures at least suggest that the industry should give careful consideration to the condition of its manufacturing equipment.

Summary of Survey Data

This survey has brought out the great variety of ages, models, sizes, cuts, number of feeds, and other features connected with knitting machines used in the knitted-outerwear

industry of Philadelphia. Some of the important points are given below.

Of the circular knitting machines covered by the Philadelphia survey, 76% were plain, in spite of the fact that a large proportion of the pattern-wheel machines covered by the survey had been converted from plain to pattern wheel. Of the flat machines of known type covered by the survey, 88% were plain. The proportion of plain circular machines, eight years or more in the present plant, was much larger than of pattern-wheel or jacquard circular machines. For the three styles in question the ratios were 38, 7, and 11%, respectively. The jacquard circular machines had the greatest ratio of relatively recently purchased machines—89% of those for which data were available were less than three years old in their present plants. Among the flat machines those of jacquard style averaged considerably fewer years in their present plant than did the plain machines. For instance, a third of the flat jacquard machines had been less than a year in their present plant, compared with less than 5% of the flat plain machines.

Among the circular machines the jacquard and pattern-wheel machines operated greater proportions of normal working time during the period July to December, 1928, than did the plain machines. Interestingly enough, the flat plain machines ran more of the time than did the flat jacquard machines. More than 40% of the circular machines and 60% or more of the flat machines were bought second hand by their present owners.

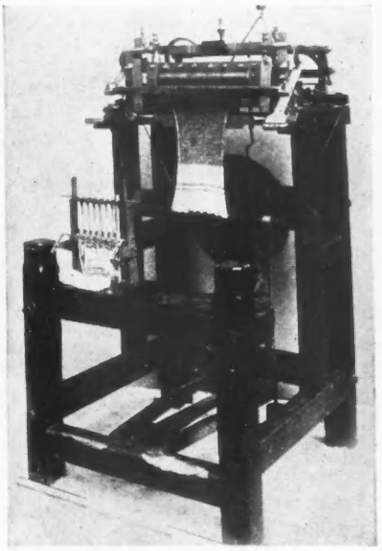
About a third of both the circular and the flat machines for which data on length of time in present plant were available had been in their present plant for eight years or more. Many of these machines had been bought second hand and consequently were older than the records of the reporting plants indicated. Moreover, it is probable that a large number of machines, both circular and flat, for which no age data were available, were fairly old. The outstanding example of age was the case of ten flat machines, comprising 4% of the total flat machines of known number of years in present plant, which were bought second hand 50 years ago by the plant now owning them. A comparison of the ages of machines, both circular and flat, with their idleness during the period July to December, 1928, shows that, with some exceptions, the older a machine, the less it was in operation.

There was such a great variety of diameters of circular machines and widths of flat machines as to suggest studying the possibility of gain from simplification of sizes. Similarly, there was a great variety in the reported speeds, particularly of the circular machines, and much guesswork in reporting them, suggesting the desirability of studying speeds with a view to obtaining greater efficiency from standardization of speeds, or from altering in various ways the present speeds.

More than half the circular machines for which data were available possessed no striper changes, while 39% of the flat machines for which data were available possessed no yarn changes.

About 40% of the circular machines

(Continued on page 85)



Old knitting frame—the daddy of them all—as used in 1770

Table A.—Degree of Activity of Equipment

% Normal Working Time in Use, July to Dec., 1928	Circular Machines Number	Circular Machines Per Cent	Flat Machines Number	Flat Machines Per Cent
0	49	6	13	4
5	3	(1)	2	1
10	8	1	3	1
20	5	1	...	...
25	41	5	19	7
33⅓	...	...	2	1
40	3	(1)	...	...
50	307	38	75	27
60	...	...	5	2
75	92	11	54	19
80	65	8	8	3
90	4	(1)	12	4
95	2	(1)	13	4
100	217	27	66	23
125	9	1	...	...
150	...	...	13	4
Total	805	100	285	100
Unknown	348	...	166	..
Grand total	1,153	...	451	..

[1] Less than one-half of 1 per cent.

Table D.—Effectiveness of Equipment in Use

Rating (Per Cent)	Circular Machines Number	Circular Machines Per Cent	Flat Machines Number	Flat Machines Per Cent
0	27	2	59	14
5	233	20	263	61
7½	72	6	...	...
10	105	9	4	1
15	101	9	51	12
20	371	33	44	10
25	99	9	1	(1)
30	27	2	2	(1)
33	24	2	2	(1)
40	12	1	5	1
50	3	(1)	...	..
65	47	4	...	..
75	26	2	...	..
Total	1,147	100	431	100
Unknown	6	...	20	..
Grand total	1,153	...	451	..

[1] Less than one-half of 1 per cent.

Table B.—Circular Machines of Different Diameters, Classified According to Per Cent of Normal Working Time in Use, July to December, 1928

Diameter in In.	Total	Per Cent of Time in Use: 0	5	10	20	25	40	50	75	80	90	95	100	125	Unknown
Up to 1	21	3	...	...	...	1	..	6	..	3	...	...	2	...	6
1¼ to 2	47	4	...	...	...	...	..	12	..	6	2	1	5	...	17
2½ to 3	98	2	..	1	..	6	..	19	15	10	...	...	12	...	33
3¼ to 4	52	1	2	...	...	6	3	5	4	..	2	..	5	...	24
4¼ to 5	56	1	...	...	...	8	..	13	2	3	...	...	5	...	24
5¼ to 6	22	5	...	...	...	...	...	4	2	6	...	...	1	...	4
6¼ to 7	10	3	...	...	...	...	...	6	...	...	...	...	...	...	1
7¼ to 8	10	4	1	...	...	...	...	2	1	...	...	...	1	...	1
8¼ to 9	14	7	...	...	...	...	...	3	3	...	...	...	...	...	1
9¼ to 10	31	6	...	...	2	...	...	11	3	...	...	...	5	...	4
10¼ to 11	16	1	...	...	1	1	..	4	2	1	...	...	4	...	2
11¼ to 12	42	3	...	...	...	...	...	11	4	2	...	...	12	...	10
13	27	1	...	...	...	1	..	4	2	...	...	...	10	...	9
14	62	1	..	1	2	1	..	10	3	9	...	...	15	...	20
15	38	..	..	2	..	2	..	7	2	3	...	...	15	...	7
16	96	..	...	...	...	1	..	31	4	3	...	...	38	2	17
17	37	..	...	...	...	2	..	8	3	3	...	...	12	...	9
18	86	2	..	4	..	3	..	28	6	3	...	...	19	...	21
19	58	..	...	...	...	1	..	18	9	3	...	...	13	...	14
20	68	2	..	...	...	5	..	18	5	5	...	...	7	...	26
21	47	..	...	...	...	2	..	14	2	3	...	...	16	...	10
22	30	..	...	...	...	...	..	11	2	1	...	...	6	...	10
23	16	..	...	...	...	1	..	5	2	1	...	...	2	...	5
24	13	..	...	...	...	...	..	3	2	..	...	...	2	...	6
26	1	..	...	...	...	...	..	...	...	...	...	...	1	...	...
28	21	..	...	...	...	...	..	...	7	...	...	...	6	7	1
30	81	1	...	...	...	...	..	52	6	...	...	...	2	...	20
32	2	..	...	...	...	...	..	...	1	...	...	...	1	...	..
36	2	..	...	...	...	...	..	2	..	...	...	...	...	...	..
Unknown	49	2	...	...	...	...	..	...	...	...	...	1	...	...	46
Total	1,153	49	3	8	5	41	3	307	92	65	4	2	217	9	348

Table C.—Sizes of Machines Employed

Circular Machines: Diam. in Inches	Number	Per Cent
Up to 1	21	2
1¼ to 2	47	4
2½ to 3	98	9
3¼ to 4	52	5
4¼ to 5	56	5
5¼ to 6	22	2
6¼ to 7	10	1
7¼ to 8	10	1
8¼ to 9	14	1
9¼ to 10	31	3
10¼ to 11	16	1
11¼ to 12	42	4
13	27	2
14	62	6
15	38	3
16	96	9
17	37	3
18	86	8
19	58	5
20	68	6
21	47	4
22	30	3
23	16	1
24	13	1
26	2	(1)
28	21	2
30	81	7
32	1	(1)
36	2	(1)
Total	1,104	100
Unknown	49	...
Grand total	1,153	...

[1] Less than one-half of 1 per cent.

Flat Machines: Width in Inches	Number	Per Cent
2 to 5	3	1
9	2	1
10	19	6
11	1	(1)
12	20	6
14	6	2
16	23	7
18	32	9
20	38	11
21	1	(1)
22	20	6
23	1	(1)
24	27	8
25	2	1
26	18	5
27	1	(1)
28	9	3
30	4	1
31	2	1
32	43	13
33	1	(1)
34	6	2
36	12	4
37½	6	2
40	7	2
44	5	2
45	4	1
48	3	1
52	1	(1)
80	3	1
100	10	3
Total	330	100
Unknown	121	...
Grand total	451	...

Many Vital Problems Were Considered at Knitted Outerwear Convention

THE twelfth annual convention of the National Knitted Outerwear Association, held at the King Edward Hotel, Toronto, Canada, June 19 and 20, was in many respects one of the most important gatherings in the history of that organization. There were numerous highlights—the reports on machinery obsolescence surveys, which are treated in detail elsewhere in this issue; the question of trade practice rules which has come up anew since the Federal Trade Commission revised the rules adopted by the industry last year; the market extension problem and the need for a curb upon improper listing of competitive imports for taxation purposes.

The election of officers for the year resulted as follows: Daniel Rheinauer, president of New York Knitting Mills, New York City, succeeding Oscar W. Fishel, as president. The following were chosen vice-presidents—A. J. Friedlander, of the Friedlander Knitting Co., Milwaukee, Wis.; L. C. Brine, Boston, Kingston Knitting Mills (re-elected); A. J. Farber, Friedman-Blau-Farber Co., Cleveland (re-elected); and A. Tidelman, Philadelphia, of the Artex Knitting Mills. Morris D. London, Commodore Knitting Mills, Brooklyn, was re-elected treasurer; Harold R. Lhowe, counsel, and Ellery B. Gordon, executive secretary, and W. W. Eichorn, field secretary, all were re-elected.

Directors were elected as follows: Adolph Farber, Sol Reinthal, O. W. Fishel; A. Titelman, Bernard Steuer, Ingram Bergman; R. W. Gerish, James F. Briggs, L. Andrew Castle; A. J. Friedlander, H. M. Levy, D. F. Byrnes; Louis C. Brine, M. D. London, Daniel Rheinauer, Dan Starr, A. Egerer, A. Roy Hitchcock, George H. Jones, Samuel Feuerstein, John Stern and J. A. Burns (Canada).

The morning of June 19 was devoted to pre-convention meetings of the following committees: Market extension, standards (machinery survey); trade relations, legislation and finance. The convention was formally opened with a luncheon, at which D. McCallum, of R. M. Ballantyne, Ltd., Stratford, Ontario, Canada, presided. Mr. McCallum welcomed the convention to Canada on behalf of the Canadian group, made a brief review of current industrial conditions, and then introduced Oscar W. Fishel, president of the association, who summarized the problems before the convention.

Retailer Speaks on Styling

THE principal speaker at the luncheon was Clay Myers, of Joseph Horne Co., Pittsburgh, who discussed styling, timing of seasons, and education in knitted outerwear. He said in part:

"The general ready-to-wear business has been largely built on a 'five season' program, originated and sponsored by the Garment Retailers of America. Why not make a study and see if you cannot fit knitted apparel, into their program?

"Perhaps it will be well to outline the 'five season' program at this time. Let us take this date as the start of our business year. What are the next important outfitting needs of the buying public? In late summer and early autumn we have a tremendous army of school and college students who must be outfitted for their half yearly semester. Your openings for school and college requirements should be timed so that the merchandise would be on the retailers shelves not later than Aug. 15 to Sept. 1.

"In the second season comes the holiday demand with wide variations and requirements, new colorings, and a rather comprehensive assortment of staples and novelties for gifts for all sizes and ages, including highly styled knitwear for winter resort wear, to be stocked by the retailer not later than Nov. 15 to Dec. 1.

"The third season is the Pre-Easter and Spring Season. Manufacturers opening dates on merchandise for Pre-Easter selling should take place about Jan. 15 to Feb. 1.

"The fourth season is the late spring and early summer, when the American public make their plans and buy their apparel for the great outdoor activities and sports. The fifth season is the summer travel and vacation period."

Report of Executive Secretary

THE report of the executive secretary, Ellery B. Gordon, was then read. It was in part as follows:

"The year of 1929 was the best for our industry in point of volume; an increase over 1928 of some 10%, with production of sweaters reaching $118,000,000; swimming suits $30,000,000; women's wear jumping to $20,000,000; and the remaining items bringing the total to $246,000,000. 1930 started off with decided reaction, partly caused by stock market crash; partly by a recognition that a breathing spell was needed; and partly by a psychological condition that led to general retrenchment in buying. One good lesson for us can be expressed: 'Manufacture on orders only.' I believe our mills generally have followed that policy. Rapid strides are now being made toward a more satisfactory second half year. When 1930 closes, we shall probably find sales less than in 1929, possibly 15% off.

"Trade practice rules have been adopted, but have been so revised by the Federal Trade Commission that they are not now our industry's expressed desires, but rather an attempted imposition by a Government body. Unless we can get them restored to something like the form in which we adopted them, they are useless, and meaningless. Your committee expects your support in the program they present. Nearly 500,000 of our illustrated 'Common Abuses of Swimming Suits' have been distributed on orders, to members, who pack one with each suit. These should help materially to cut down unjustified returns."

Mr. Gordon recommended:

"That the market survey facts already developed be transformed into an aggressive program for better merchandising under the immediate direction of our Field Secretary, with the object of improving our own practice and building greater confidence and good will for knitted outerwear; That we substitute for present unprofitable machinery a stronger mechanical plant, by working toward general adoption of some obsolescence reserve, joined to a regular replacement program; That we build up general observance of fair practices, preferably in co-operation with the Federal Trade Commission, but failing in that, we should have the courage to stand for and enforce observance of our own rules as adopted at the Chicago Conference last November; That we establish standard size measurements in response to widespread demand from retailers and manufacturers."

President's Address

MR. FISHEL, in his address, deplored the current stress on price-selling. He said in this connection:

"Many of the industry, in their effort to book business through price, have disregarded ethics as to future effect upon the consumer; the effect that price is soon forgotten but that quality lingers on, and in the anxiety to book orders at a price, quantities of knitted outerwear were thrown on the market which

were purely for a one-time sale, without regard for future business.

"Today, with more outdoor living, more sports and health desire, there is an absolute necessity for knitted outerwear, but the right kind of knitted outerwear; we have it in our hands, gentlemen, to eradicate this price condition. We must think, in manufacturing knitted outerwear, of quality, the effect upon the consumer, and not of the price."

All Sweater Lines Open Nov. 15

THE features of the afternoon session were: the report of the market extension committee, by Philip Frankel, chairman; report of the finance committee, by Morris D. London. Former was in three divisions—fall opening, market survey and merchandising and market extension. Herman Heller, president of the Knitted Outerwear Selling Agents Association, recommended that bathing suit lines be opened in August and sweater lines in New York in January. It was finally decided that combined openings of fall and spring sweater lines in Chicago be dispensed with, and that individual showings will take place in all of the market centers on Nov. 15.

Daniel Rheinauer
Newly Elected President

Mr. Frankel then reported on his committee's market survey which covered 82 mills doing a total annual business of $42,000,000, and which included a questionnaire sent to retailers. Examination of the retailers' replies showed that they were in accord with manufacturers who had been questioned regarding the chief problems of the trade. They said the chief faults in knitted outerwear are lack of style in color, too much sameness, and lack of quality. Improvement in dyes and dyeing were urged, to bring greater consistency. Mr. Frankel summed up by urging the following—a general trade-up policy; improved quality; standardization of sizes; less sample production; a program of broadcasting promotion, and the establishing of educational service to better acquaint salespeople with the characteristics of knitted outerwear. The report was approved.

The first day's session concluded with the annual banquet, at which Harold R. Lhowe, association counsel, was toastmaster. Bernard K. Sandwell, of Montreal, who was scheduled to be the guest of honor at the banquet, was unable to attend, due to sickness, and his place was taken by Natier Moore, a Toronto editor. Mr. Moore delivered a humorous address.

The Friday, June 20, session opened with the reading of the tariff and legislation committee report, by Mr. Gordon, on behalf of J. J. Phœnix, chairman, who was unable to attend.

Bernard Steuer, chairman of the machinery survey committee then reported on the Philadelphia and Cleveland surveys. Full details of the Philadelphia survey were contained in a report by the Department of Commerce, copies of which have been sent out to all members of the association. It is summarized on pages 32 and 33. The Cleveland survey has not yet been completed.

Mr. Steuer urged all members to study the Philadelphia report carefully, with the aim of bringing their own machinery up to date. On behalf of the committee he recommended that another survey be conducted in New York and Brooklyn, provided that they get cooperation of firms representing 60% of the machinery in the district; this recommendation was approved.

The convention then adjourned for luncheon. John M. Stern, publisher, was toastmaster at the luncheon and he spoke briefly on current questions facing the industry. He introduced W. H. Rastall, chief of the machinery division of the U. S. Department of Commerce, who made a powerful plea for greater consideration of machinery obsolescence.

Urges Scrapping of Old Machines

MR. RASTALL'S talk was considered one of the features of the convention. He said knitters are much inclined to hold to old machines, even when style changes made them obsolete. He added:

"About 60% of manufacturers in your industry bought second hand machines, our survey indicates. Is this good business? The machine is the instrument of progress. The machine puts us on world leadership. If, as most believe, the machine raises the standard of living, isn't it more necessary to make sure you are using the most up-to-date machine? If you use 60% second hand machinery, don't you make a serious mistake?

"The age of the equipment shown in some mills in the survey will shock you. Some machines are very old. Any machine 10 years old, is hopelessly out; if a machine 50 years old and bought second hand is good enough to run, then, gentlemen, you have a message for the manufacturer of the machines. He should improve the machinery he produces.

"Your survey shows you are in bad shape. Some one must eliminate 50% of the machinery in your plants. The health of your industry requires it. This is a serious and important factor in your business; I hope you will find some way to solve it."

At the concluding session of the convention, Friday afternoon, Constant Southworth, of the Department of Commerce, told of the progress of the Cleveland survey.

Address by Mr. Garrison

THE final speaker of the convention was Flint Garrison, director general of the Wholesale Dry Goods Institute, who spoke on "Distribution Problems." Mr. Garrison also described the inquiry being conducted by his association into the selling policies of manufacturers.

"The distributor has the right to ask the manufacturer how he sells," said Mr. Garrison. "The manufacturers answering our questionnaire are listed, A, B or C, depending upon their answer. The issue is whether the manufacturer sells to both ourselves, the wholesalers, and to our customers. We only ask him to tell us what he does, so we will know where we stand."

Following Mr. Garrison's talk, there were many inquiries from the floor, and the policy of the Institute in questioning manufacturers was minutely discussed. One manufacturer asked the wholesalers' attitude regarding a manufacturing firm which owned a wholesale or retail unit and sold below ordinary prices to its own subsidiary. Mr. Garrison answered:

"If a manufacturer sets up a wholesale house and sells so low to his own company that other wholesalers can't compete, then he is discriminating against other wholesalers, and he would probably get a low rating in our list."

The convention then adjourned. A dozen manufacturers remained over until Saturday to take advantage of an invitation from Penman's Ltd., to be the guests of that company, at its plant at Paris, Ont.; the manufacturers motored 70 miles to the plant; had luncheon there and then toured the buildings.

Textile Imports and the Tariff

THE textile industry has shown an interest in the tariff above all other lines of manufacture. Congress has devoted more time in hearing the requests of textile representatives and answering their needs in tariff making than was applied to any other industry except agriculture.

Now that the new law is in force, the question is—how effective it will be? Obviously a rate is meaningless unless it is directed against a product which actually is imported in significant quantity. In order to show the relation between the new rates and imports, the accompanying table has been prepared from Tariff Commission statistics showing at a glance a few key items in each schedule which make up nearly the entire trade volume which is under a revised tariff status. Whether or not the new rates are going to cut imports may be judged with a fair degree of accuracy by the relationship shown in the table.

Why Imports Anyway?

In general, textile imports can be divided into three groups: raw materials; specialty and style goods; and goods which come in because foreign production costs are much below our own. In the first two instances, a tariff is effective in raising domestic prices but is unlikely to affect import volume materially except where the rates reach an embargo level. Raw materials are imported because of domestic deficiency. Wool production in the United States is determined by the demand for mutton. Wool rags and wastes are limited in supply. Long staple cotton faces severe growing conditions under insufficient premium stimulus. Flax is ill adapted to a high wage country. These must continue to come in over the tariff wall.

Style goods, such as expensive woolens, silk garments, and embroideries, are in demand partly due to design features and partly due to the fetish of the import label. The public will continue to buy as long as it has money to spend for luxuries. Furthermore the spread between landed price and domestic retail value usually is so great that the comparatively small duty increases applied in most instances can be absorbed if necessary or can be reflected in slight retail mark-ups. Tariffs are usually effective against items which are imported because for-

Textile Import Items Exceeding $1,000,000 Each in 1928 Against Which Changes Were Made in the New Tariff Law

Paragraph	Item	Value of 1928 Imports, Thousands of Dollars	Equivalent or Actual Ad Valorem Rates (Per Cent) 1922	1930
	Cotton Schedule			
	Increases			
908	Tapestries and other Jacquard figured upholstery cloths	$5,008	45.00	51.53
904	Countable cotton cloth, printed dyed, or woven figured	5,184	26.99	31.53
904	Countable cotton cloth, unbleached	4,742	27.90	42.56
901	Yarns, bleached or dyed	3,312	28.23	40.67
909	Pile fabrics and manufactures of	3,169	47.09	63.42
904	Cloth with 8 or more harnesses or with Jacquard, lappet, or swivel attachments	2,513	41.26	50.35
904	Cloth, bleached	2,174	31.12	43.91
916	Hosiery	1,984	49.88	63.42
902	Sewing thread and knitting yarn	1,481	20.19	24.15
909	Clothing and apparel, not knit	1,374	39.89	43.63
907	Tracing cloth	1,167	29.46	32.00
	Total increases	35,310	35.22	44.66
	Decreases			
915	Cotton and embroidered gloves	7,529	66.80	62.21
	Total decreases	8,174	64.66	60.21
	Total for cotton schedule	$48,301	40.27	46.92
	Flax, Hemp, and Jute Schedule			
	Increases			
1010	Flax woven fabrics, n.s.p.f.	$7,999	40.00	40.00*
1013	Linen table damasks and manufactures of	6,015	40.00	45.00
1016	Handkerchiefs of vegetable fiber other than cotton, hemmed or hemstitched	3,501	45.00	52.91
1009	Woven fabrics of flax, hemp or ramie; paddings or interlinings of flax, hemp, or jute	3,083	54.00	54.07
1001	Flax, hackled; including dressed line	2,228	4.30	6.44
1004	Yarns, single; of flax, hemp or ramie	1,231	28.77	34.86
1001	Flax, not hackled	1,079	3.78	5.66
	Total increases	29,843	35.29	42.02
1011	Total decreases (entirely on plain woven fabric, except cotton and jute, weighing under 4½ oz. per yd	4,811	35.00	35.00*
	Total for flax-hemp-jute schedule	$133,207	18.16	19.14
	* Note—Changes in phraseology increase the custom collections on flax woven fabrics by 20% and reduce them on plain woven fabric by 40% in round numbers			
	Wool Schedule			
	Increases			
1102	Combing wool	$24,608	43.01	47.17
1109	Cloths; woolens valued over 80c. per lb., wool content	13,281	70.71	83.02
1105	Wool rags	6,214	26.12	62.68
1115	Hat bodies valued not over $2 per lb	6,043	56.68	102.80
1105	Noils, uncarbonized	5,674	26.64	32.25
1102	Clothing wool, in the grease	4,718	42.66	46.79
1101	Dutiable carpet wools, in the grease	3,812	43.01	47.17
1109	Worsteds, valued over 80c. lb	2,957	65.89	77.65
1115	Clothing and apparel valued over $4 lb	2,693	56.29	56.99
1114	Wool hosiery valued over $1.75 per doz. prs.	2,373	61.87	63.18
1105	Thread or yarn waste	2,261	27.25	42.58
1102	Clothing wool, on the skin	2,164	39.96	42.62
1114	Wool knit outerwear valued over $2 lb	2,187	58.99	59.99
1115	Wool clothing and apparel valued over $2 and not over $5 per lb	1,521	55.34	56.37
1108	Woolens, warp of cotton or other vegetable fiber	1,348	70.57	82.86
1102	Mohair, in the grease	1,243	53.29	58.44
1122	Fabrics 17% or more wool by weight but not in chief value of wool	1,162	40.00	86.31
	Total increases	95,805	48.92	61.73
1116	Total decreases, all from Oriental rugs	17,422	55.00	53.24
	Total for wool schedule	$116,343	49.54	59.93
	Silk Schedule			
	Increases			
1205	Woven fabric in piece, broad silks, etc	$16,417	55.00	56.00
1206	Pile fabrics and velvets	6,737	60.00	65.00
1210	Wearing apparel not of lace or embroidery	3,845	60.00	65.00
1211	Silk manufactures, n.s.p.f.	1,166	60.00	65.00
1202	Spun silk,	1,129	45.00	50.00
	Total increases	29,980	56.41	59.20
	Total decreases	11	51.45	32.76
	Total for silk schedule	$32,440	56.56	59.13
	Rayon Schedule			
1301	Singles less than 150 dernier in weight	$1,724	45.00	51.07
	Total increases	2,003	46.06	52.78
	Total decreases	368	59.91	52.32
	Total for schedule	$11,426	52.68	53.62
	Total for the 5 Textile Schedules			
	Volume of imports on which rates were increased (56.5% of total)	$192,941	45.4	54.9
	Volume of imports on which rates were decreased (9.0% of total)	30,786	54.6	51.1
	Volume of imports on which rates were unchanged (34.5% of total)	117,990	18.5	18.5
	Total volume of textile trade in 1928	$341,717	36.8	41.8
	Miscellaneous changes			
783	Cotton 1⅛-in. or over	$30,979	Free	24.06
1529	Embroideries:		Per Cent	Per Cent
	Wearing apparel, Silk	$2,835	75	90
	Other articles: cotton	1,112	75	90
	Flax, etc	5,266	75	90
	Silk	1,538	75	90
	Handkerchiefs: Cotton	1,088	75	98.89
	Flax, etc	1,340	75	74.20

eign countries undersell the domestic product. The heavy increase on wool hat bodies, for example, is likely to have some influence.

Raw materials are responsible for a large part of the ad valorem change in the textile schedules. Dutiable wools amounting to $39,431,000 in 1928 would have had to pay $1,566,000 additional had the new rates applied in that year. Compensatory duties of $1,651,000 have been added to the wool schedule on that account. Further compensation has been given on account of the higher rag rates. Similar adjustment has been accorded in the cotton and hemp-flax-jute schedules.

Foreign Trade Under Protection

Important as the tariff is, it is interesting to note that under the 1922 Act 66% of imports were on the free list and under the 1930 Act this ratio is changed slightly to about 62%. In seven years under the 1922 Act total imports increased 41%, and exports of finished manufactured products (the class most affected by tariffs of other countries) increased in the same period 100%. These figures are interesting in view of some of the charges made relative to effects of the new bill on foreign trade.

Secretary of Commerce Lamont in a statement on June 22 said "We believe that the new tariff law will not retard the amazing growth of our foreign trade."

How Textiles Feel About It

The following paragraphs summarize the feeling about the tariff act as expressed in various branches of the textile markets to TEXTILE WORLD representatives:

WOOL—Wool goods sellers believe that the new tariff has been a steadying influence on raw wool and hence expect that the price of finished goods is not likely to be lowered. With commodities generally declining this condition has served to dull the edge of a possible bear argument. There is a feeling, however, that the industry has not received sufficient compensatory duties on imported piece goods to counterbalance the increased rates on raw wool and wastes. Goods importers do not expect any radical decrease in their sales. It has been their experience, they state, that foreign mills soon begin to absorb the additional tariff and keep prices of imported goods on a competitive basis.

COTTON—A greater divergence of opinion exists in the cotton goods field. The new tariff finds its staunchest proponents among the fine goods manufacturers who deem a high degree of protection a vital necessity. Those primarily interested in exports are fearful that their business will suffer a severe set-back. Others take more to the "middle of the road." They maintain that as long as this country remains a protected nation, it cannot expect materially to increase exports, but that the present foreign outlets for cottons can be held.

RAYON—The comment of one important rayon yarn importer that the new tariff law will "cut seriously into their American business, and will mean the elimination of at least one grade of yarn from the American market," may be taken as indicative of one effect of the new enactment. Domestic yarn producers are satisfied with the additional protection, and now are waiting to see what effect the law has upon their business. Competition of imported yarn, long a moot issue, has forced domestic firms to reduce prices repeatedly. Producers are hopeful that the tightening of the tariff will avert this in the future. In TEXTILE WORLD's tariff summary last week there was a typographical error in the rates on rayon filaments and yarn of 150 denier and heavier. Under the new act the rate on these filaments and yarns is 45% and a minimum duty of 45c. per lb. is set. The change from the former rates is 5% more on the coarser yarns and 10% more on the finer.

KNIT GOODS—The new tariff law provides a slight increase in protection for certain groups of knit goods manufacturers, but the knit goods industry as a whole is far from satisfied. At the underwear end, silk goods are unchanged, while wool goods are in a somewhat better position, though the increase is chiefly compensatory for the higher rates on raw wool. Additional duties are imposed on knit outerwear, thanks to a strenuous fight by the National Knitted Outerwear Association, but this group regards the new protection as "quite inadequate"; the chief source of satisfaction is the flexible provision which suggests an avenue of help for the weaker branches of the trade. Hosiery producers also are dissatisfied with the bill, especially with the clauses relating to rayon and cotton hosiery which, they believe do not offer sufficient protection.

SILK—The principal reaction of the silk industry to the new tariff, is a sense of relief that the matter is settled. The industry's status is not materially changed by the new legislation; barring certain divisions, the protection remains as it was under the 1922 law. The trade felt the prolonged uncertainty, incident to the tariff revision, and all divisions—raw silk, broad, thrown and spun silk—now look for improved business conditions.

En route to pay an American tariff bill

Clarification of Definitions Stressed at Annual Meeting of D-13

APPROVAL of plans for the editing and correlation of existing specifications so that they will conform with the definitions of the American Society for Testing Materials and the consideration of routine business consumed most of the Tuesday morning session of Committee D-13, which was held in conjunction with the annual meeting of the parent organization at Chalfonte-Haddon Hall, Atlantic City, N. J., beginning June 23 and extending to June 27.

H. J. Ball Elected Chairman

Professor Herbert J. Ball, head of the department of textile engineering, Lowell Textile Institute, Lowell, Mass., was elected chairman of Committee D-13, succeeding W. H. Whitcomb, who was in turn elected secretary for the ensuing two-year term. Kenneth B. Cook, of Manville-Jenckes Co., Pawtucket, R. I., was re-elected first vice-chairman, while R. H. Adams, of Callaway Mills, LaGrange, Ga., was named second vice-chairman.

In his opening remarks at the committee meeting Chairman Whitcomb announced that J. M. Weaver will again become chairman of Sub-committee A-4 on Asbestos, that F. S. Mapes, General Electric Co., will assume the chairmanship of section 6, Sub-committee A-1, on narrow fabrics, and that A. L. Brassell, of the United States Testing Co., New York, N. Y., will be chaiman of Sub-committee B-2 on Nomenclature and Definitions.

W. E. Emley, of the U. S. Bureau of Standards, Washington, D. C., who was appointed at a previous meeting to act as editor of specifications, submitted several examples of inconsistencies which he had found in the wording of definitions and specifications. He stressed the importance of adhering to a uniform terminology in A.S.T.M. specifications and also pointed to the advantage of having all standard specifications relating to textiles grouped together in a single volume as a matter of convenience.

Chairman Whitcomb stated that Committee E-8 on Nomenclature and Definitions has reconsidered the definition for regain (moisture regain) and also that it has approved the definitions relating to asbestos yarn materials, namely: "asbestos yarn," "cut," "metallic asbestos yarn," "plain asbestos yarn," and "ply."

Members of Committee D-13 voted to register a protest against the phraseology, but not the intent, of a resolution recently passed by the executive committee of the society, and pertaining to the approval and use of testing apparatus. It was pointed out that, as an outcome of discussion of the policies in this connection adopted by the executive committee, and announced to the members in the *A.S.T.M. Bulletin* for December, 1929, with several manufacturers and dealers of testing apparatus, the Scientific Apparatus Makers of America, representative of practically all leading manufacturers of testing apparatus, had proposed that the association and the American Society for Testing Materials cooperate wherever practicable in the development of specifications for testing apparatus. The executive committee accepted this offer of cooperation and has recommended that the standing committees "through appropriate means secure the advice of the association in the determination of requirements for their testing apparatus, especially with respect to requirements of manufacture and tolerances." In a resolution proposed by H. J. Jaquith, New York, N. Y., it was suggested that the executive committee clarify the wording of its recommendation to make clear a distinction between testing machines and chemical laboratory apparatus.

Following the election of officers, Professor Ball, the new chairman, emphasized the importance of developing fundamental facts as bases upon which standard specifications can be constructed, and urged members of Committee D-13 to lend their efforts toward a more active participation in the work of that organization. J. E. Skane, retiring secretary, also stressed the importance of members returning their votes in letter ballots.

The committee which was appointed in the spring to select a place for the October meeting recommended Boston, Mass., and the members were unanimous in their approval of this selection. Chairman Whitcomb named a committee, to be composed of R. T. Fisher, chairman; J. R. Corley, F. S. Mapes, Dr. R. W. Webb and B. L. Whittier, to decide upon a place for the March, 1931, meeting and to make a report at the fall meeting of the committee in Boston.

The annual report of Committee D-13, which was submitted by Chairman Whitcomb at the third session of the society, Tuesday evening, June 24, set forth certain recommendations affecting standards and tentative standards and outlined sub-committee activities during the year. The present membership of the committee was said to consist of 156 members, of whom 57 are classed as producers, 47 classed as consumers, and 52 classed as general interests.

Text of D-13 Report

The report of Committee D-13 was, in part as follows:

1. *Proposed Revisions of Existing Standards.*—The committee recommends that the revisions in the following standards, which are given in full in the Appendix to this report, be submitted to letter ballot of the Society. These revisions are divided into two groups:

Group A.—Revisions in the following standards, recommended for publication as tentative for one year before referring them to letter ballot of the Society for adoption as standard:

Standard General Methods of Testing Woven Textile Fabrics;

Standard Specifications for Tolerances and Test Methods for Certain Light and Medium Cotton Fabrics;

Standard Specifications for Textile Testing Machines.

Group B.—Revision in the following standards which the committee recommends be referred to letter ballot of the Society immediately by the required nine-tenths vote of the annual meeting for adoption as standard:

Prof. H. J. Ball, elected chairman of Committee D-13

Kenneth B. Cook, re-elected first vice-chairman, Committee D-13

W. H. Whitcomb, retiring chairman of Committee D-13, who was elected as secretary

Standard Specifications for Tolerances and Test Methods for Tire Fabrics Other than Cord Fabrics;

Standard Specifications for Tolerances and Test Methods for Cord Tire Fabrics.

II. *Proposed Revisions of Tentative Standards.*—The committee recommends the revisions in the following tentative specifications be approved and that the specifications as thus revised be continued as tentative for another year:

Tentative Specifications for Chafer Tire Fabrics;

Tentative Methods for Identification of Textile Fiber and Their Quantitative Determination in Mixed Goods.

III. *Advancement of Tentative Standards to Standard.*—The committee recommends that the definitions of the terms "Loop-Knot," "Gage" and "Regain," which have been tentative since 1928 as a part of the Tentative Definitions of Terms Relating to Textile Materials, be revised as indicated in the Appendix and referred to letter ballot of the Society for adoption as standard to be incorporated in the Standard Definitions of Terms Relating to Textile Materials. The definitions as revised are in accordance with the recommendations of Committee E-8 on Nomenclature and Definitions.

IV. *Withdrawal of Tentative Standards.*—The committee recommends the withdrawal of Tentative Methods of Testing Cotton Fibers. This action is deemed advisable because the committee feels that the methods suggested are not accurate and dependable and it would be better to wait until some of the research work now under way indicates methods more accurate and more dependable.

V. *Tentative Standards Continued as Tentative.*—The committee recommends that the following tentative standards be continued as tentative for another year without revision:

Tentative Specifications for Tolerances and Test Methods for Knit Goods;

Tentative Specifications for Tolerances and Test Methods for Rayon;

Tentative Specifications and Tests for Cuban (Jute) Raw Sugar Bags;

Tentative Specifications for Asbestos Tape for Electrical Purposes;

Tentative Methods for Testing Grease Wool and Allied Fibers for Scoured Content.

Technical Papers Presented

Following the presentation of the Committee D-13 report at the third session of the meeting, Ephraim Freedman, director of the bureau of standards, R. H. Macy & Co., Inc., New York, N. Y., delivered a paper on "Thermal Transmission of Fabrics," in which he described new apparatus for testing heat transmission through porous materials, such as cotton and wool fabrics, the material being exposed to temperatures down to 20 F. and wind velocities up to 25 miles per hour. This paper will be published in a later issue of TEXTILE WORLD among the feature articles on technical subjects.

One of the interesting features of the meeting was a symposium on aircraft materials held on Friday. W. E. Emley, of the U. S. Bureau of Standards, presented a paper entitled, "Aeronautical Textiles," which described the uses of fabrics in the aviation industry. It was stated that balloon cloth is a plain woven fabric which is used either as such or as the basic material for making plied and coated fabrics for many purposes in the construction of balloons and airships. The "HH" grade of balloon cloth, having 120 threads per inch in each direction, was said to be in most general use.

The fabric used in covering the wings of airplanes was described as a plain-woven mercerized cotton cloth, having 80 two-ply threads per inch in each direction (warp and filling) and with a maximum weight of 4.5 oz. per sq.yd. The design of parachute fabric was said to be in a state of flux, there being three fabrics now in use for making parachutes, and it was stated that the Bureau of Standards and the National Advisory Committee for Aeronautics have been trying to develop a cotton fabric suitable for this purpose. "The design of aeronautical textiles has reached, and sometimes surpassed, the limit of our ability to handle cotton," according to Mr. Emley. "Further development depends upon our finding how to make a fabric having greater strength with less weight. Cotton yarn has only about 20 per cent of the tensile strength of the fibers of which it is composed. If some method of improving this 'spinning efficiency' could be devised, it would be a great boon to aeronautical designers, as well as to the cotton industry."

Entertainment arranged for members and guests at the A.S.T.M. meeting, included the annual informal dance and smoker Wednesday evening and the 14th annual golf tournament Thursday afternoon on the links of the Seaview Golf Club.

Stabilizing the French Rayon Industry

By Alex Quin

SPEAKING recently of essential steps for the rehabilitation of the rayon industry in France, a prominent Paris financier, whose activities have had a lasting influence on the world's rayon industry, said: "Grouping together is necessary; control of production is necessary; coordination of sales with demand is essential; and the formation of a national French cartel to treat with foreign rayon cartels for the formation of an indirect world cartel is the touchstone of rayon stabilization."

These words came as the justification of a policy, established early in the century, by two far-sighted rayon pioneers. The two men were Edmond Gillet and Ernest Carnot. They, in company with Alfred Bernheim, had had the same idea in pre-war days, and the foundation of the Comptoir des Textiles Artificiels in 1912 was the realization of it. The Comptoir stands today as the ruling factor of the French rayon industry.

There are four names indelibly associated with the development of French rayon manufacture—Alfred Bernheim, who died early in 1928; Pierre Defaucamberge who died in June, 1916; Ernest Carnot, now president of the Comptoir; and Edmond Gillet.

The story of these men, goes back to 1903, with the formation of the Compagnie Francaise de Soie Parisienne by the powerful Gillet-Bernheim group, established to produce by the cuprammonium process which had had considerable success in Germany at that time. The rival group, the Carnot-Defaucamberge interests, followed suit, and established the Societe Francaise de la Viscose the same year.

Familiar tactics followed, of the sort that astonished the world in post-war days when the work of the Bernheims and the Gillets was unobtrusively completed. Each of the rival groups founded subsidiary companies, the Soie d'Izieux in 1904 and the Societe Ardechoise de la Viscose in 1905. Competition between the two groups developed and resulted in the organization of a joint company to coordinate activities.

That central company was the Comptoir des Textiles Artificiels, with an initial modest capital of 500,000 francs. Capital of the company today officially stands at 5,000,000 francs, but the actual value of the interests it holds and its participations in almost every country where rayon is an important industry, are incalculable.

First action of the newly formed Comptoir was to purchase the original Chardonnet plant at Besancon, which had achieved considerable success but had found viscose competition growing too fast. This was in 1914. On the outbreak of the war, practically every plant controlled by the Comptoir closed down, some of them being located in territory occupied by the Germans. By 1915, however, it was decided to reopen some of the rayon plants controlled by the company, which, it may be mentioned in passing, was responsible for the fact that not one of the companies which it controlled passed a dividend payment during the war.

Details of Rayon Companies Controlled by the Comptoir

Company Name, Location and Date of Foundation	Capital (in francs)	Annual Production in Kilos 1927	1930 (Estimated)
La Soie Artificielle, Givet 1902	1,500,000	900,000	1,250,000
Soie Artificielle d'Izieux, Izieux, 1904	7,900,000	900,000	1,300,000
Ste. Francaise de la Viscose Arques, 1903	6,000,000	1,170,000	1,500,000
Ste. Ardechoise de la Viscose Vals-les-Bains, 1905	2,100,000	570,000	800,000
Ste. Francaise des Grins Artificiels, St. Just-des-Marais, 1909	300,000	450,000	650,000
Ste. Albigeoise de la Viscose, Albi, 1926	8,500,000	570,000	650,000
Ste. Suisse de la Viscose Emmenbrucken, 1905	7,500,000	.....	3,000,000
SoieArtificielle deSud-Est.,Vaux-en-Velin, 1922	6,000,000	.....	1,300,000
I a Soie de Besancon (The original company of Count Chardonnet), Besancon, 1914	2,000,000	300,000	750,000
Societe Rhodiaseta, Peage du Roussillon; and Lyon Vaise, 1923	15,000,000	1,000,000	1,300,000
Ste, Nationale de la Viscose, Grenoble, 1924	150,000,000	300,000	1,750,000
Soie Artificielle d'Alsace, Colmar, 1924	50,000,000	306,000	950,000
Soie Artificielle de Gauchy, Gauchy, 1926	24,000,000	600,000	750,000
Ste. Nouvelle de Soie Artificielle, St. Aubin, 1926	6,000,000	210,000	800,000
Cupro-Textile (in association with the J. P. Bemberg Co.) Roanne, 1926	10,000,000	240,000	2,000,000

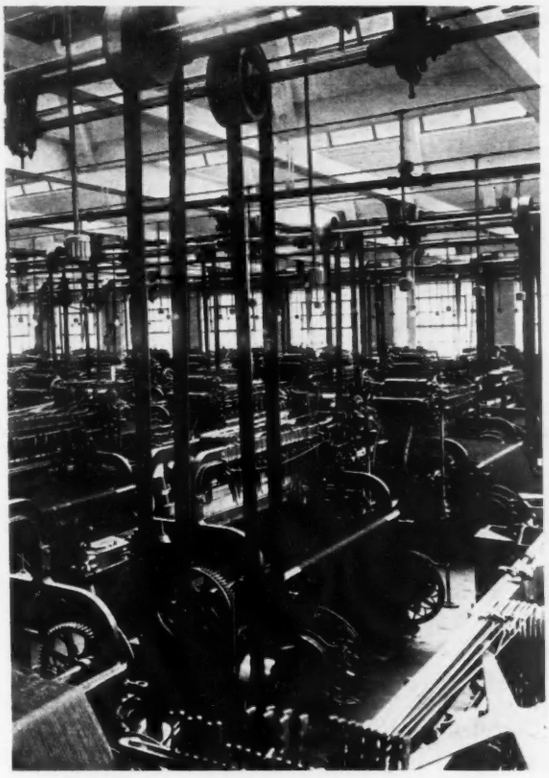
By 1920 the production of the companies controlled by the Comptoir reached the total of that in 1913, and the company was free to go ahead.

The original object of the founders had been achieved —the control of the domestic market and a prominent place in the international market where its weight and power could be exerted to the utmost as and when required. With production running at normal in the French industry the Comptoir companies control about 80% of production, although the market-flooding practices, prominent in France with the creation of numerous post-war companies during 1926, reduced the Comptoir control to somewhere around 60%. The turning of the wheel, represented by the almost disastrous consequences of the dumping period, has given the Comptoir almost 90% control of the French industry at the moment of writing.

While drastic restrictions in production are necessary for the majority of companies, the Comptoir companies are still working at normal production.

In addition the Comptoir tooks over the Soyeuse company about 18 months ago, reorganizing and renaming it the Societe d'Etudes des Textiles Nouveaux, to produce so-called artificial wool from viscose waste, which the company is now marketing. In its foreign activities, the company has interests in the following: DuPont Rayon Co., of the United States, the Cisa group of Italy, the Seta Bemberg of Italy, the Belgian Viscose Co., the Soie d'Obourg of Belgium, the Sociedad Anonima de Fibras Artificiales of Spain, the Celta A.G., of Germany, and the Sociedad Espanol Seda Viscose.

The greatest achievement of the company in recent times, has been the organization of the Bisfa (Bureau International pour la Standardization des Fibres Artificiels), jcintly formed with the English Courtauld company. Rayon producers in France, Germany, Italy, Switzerland, England, Holland, etc., are active participating members of the Bisfa, which, with headquarters at Basle in Switzerland, is drawing up international quality standards which are to be adhered to by participating companies. The effect on the world's rayon industry as it affects quality standards is going to make itself felt when the time is ripe.



One department to which the cause of shadiness is sometimes traced

When Shady Cloth Confronts the Woolen or Worsted Manufacturer

By B. F. Hayes

THE prob'em of shady cloth is one of the most serious that confront the woolen or worsted manufacturer. There are various forms of this defect, and the first one that comes to mind is varying shade from side to center. The dyer is often blamed for this defect, but a careful study of the problem exonerates him.

It is often a very difficult problem to determine the cause for shadiness from side to center, and men have different ideas on the subject. One acquaintance of mine, who has given the matter much study, believes that the cause lies in the natural affinity of the cloth for moisture. He explains that the pressing operation in the finishing department takes away the natural moisture in the cloth, and after the cloth is rolled up the outer edges will take on moisture more quickly than will the center of the fabric. The remedy which he offers for this difficulty is to pass the cloth through a conditioning machine following the pressing.

Other Causes

Although my friend's reasoning may solve the problem in certain instances, there are other causes beside uneven absorption of moisture. Some mills attempt to overcome shadiness from side to center by giving the selvages a slacker weave than is employed in the main body of the cloth, or by using a stock for the selvages which does not have as high fulling qualities as that used for the warp. The theory behind these remedies is that outside edges will full more quickly if the same weave and stock are used as in the warp, thus giving the cloth a firmer body on the edges. Although this greater firmness of the cloth at the edges may not be sufficient to attract immediate notice, it is nevertheless very likely to cause the defect. This is especially true on light or medium shades. It would probably not be the cause of the defect on dark shades.

There are times when the cloth is shady on one side only. In this case the trouble is very likely caused by the temple or shuttle. Temples are adjustable to all requirements and, like all adjustable parts of any machine, they are not always set properly. One temple may be pulling the cloth to the limit, and another may be so adjusted that the cloth simply slips through. Very possibly the defect resulting from such conditions would not be noticed until after the cloth is dyed and finished.

One cause of shadiness on one side of the cloth may lie in the location of the eye of the shuttle. Since this eye is necessarily near one end of the shuttle, it follows that as the shuttle starts from one side of the loom the filling becomes tight immediately, and as it starts from the other side the filling has more slack to take up before becoming taut. This circumstance would never cause any defect if an excessive amount of drag—preventing the filling from coming out of the shuttle freely—were never used.

Another cause for shadiness at one or both sides is the occasional improper placing of a covering on the cloth roll. The weaver should never be allowed to place such a covering at only one or both sides of the roll, as such a practice gives the cloth a larger take up of the sides than at the center. Although in this case, as in other instances previously mentioned, no defect might be immediately observed on the cloth, it would be very likely to show up after dyeing and finishing.

Cloudy Cloth

Cloudy cloth, sometimes also known as "shady cloth," is an entirely different defect from that which we have been discussing thus far. This might be caused in the dyeing or by the cloth not being properly scoured or rinsed. I recall one instance in which increasing the temperature of the water in rinsing solved the problem. There are times when crabbing in the crease will set the foreign matter in the cloth so firmly that excessive scouring must be applied to remove it and an excessive amount of soap must be used. This excessive soap is very likely to be the cause of cloudy cloth if it is not thoroughly rinsed out.

Shadiness in straight lines, running either across the cloth from side to side or running lengthwise, is usually

(Continued on page 85)

MERCERIZING
Rayon-Cotton Piece Goods

By D. G.

MERCERIZING of rayon-cotton goods is an operation which has been adopted by only a relatively small number of finishers. This fact is due partly to the supposed dangers latent in the process and partly to lack of knowledge of procedure and costs. One has vivid and often painful memories of the action of even dilute alkalis when first these goods were handled, especially in the case of acetate rayon; but with increasing experience and knowledge it has actually become common practice to kier boil certain types of viscose-cotton goods.

Reason for Mercerizing

Mercerizing of this material is not carried out with an idea of altering the intrinsic properties of the rayon, but to give an enhanced appearance to the warp—often of ungassed, single-ply, carded cotton. The bare, lifeless, and hairy appearance of the warp threads, in contrast to the smooth, rounded, lustrous, and transparent appearance of the rayon filling, is often accentuated when the material is dyed in heavy shades. This divergence is particularly apparent in navy blues, where—unless certain recommended dyestuffs are employed and great care exercised in their application—the cotton warp assumes a lighter shade than the rayon. In certain extreme cases the writer has known the fabric to exhibit an undesirable grayish bloom or cast.

Mercerization is employed to render the cotton more lustrous, transparent, and smooth and also to create an increased affinity for direct colors; the cost of mercerizing is often balanced by the saving of dyestuffs in heavy shades. A further advantage obtained by mercerizing this material is that rayon of varying affinity after mercerization undoubtedly absorbs direct colors more evenly.

Effect of Caustic Soda on Rayon

Caustic soda of the usual mercerizing strength has little appreciable effect on regenerated-cellulose rayons; but when the caustic is washed off with cold water, the rayon fiber swells tremendously, becomes more or less delustered, and partially dissolves; on drying, it becomes brittle and harsh. It has been found, nevertheless, that regenerated-cellulose rayon is soluble in caustic soda, and that this solubility increases from a minimum at dilute concentrations to a maximum at around 20° Tw., with a rapid decrease in solubility as the cencentration increases above this. In addition, cold solutions of caustic soda have a more harmful effect on regenerated-cellulose rayons than have hot solutions of the same concentration.

Several methods of modifying this deleterious action have been suggested. Some of the more important of these are as follows: (1) U. S. patents of a few years ago covering the inclusion of such substances as phenol and glycerin in the mercerizing liquor; (2) Use of caustic potash instead of caustic soda, as the former has considerably less swelling effect on regenerated cellulose rayons; (3) Use of hot water in washing the material free from caustic soda; (4) W. Marshall's English patents 323, 307, 323, and 345 covering the use in the wash water of potassium or sodium chloride, sulfate, nitrate, or chlorate; sodium thiosulfate; ammonium chloride or sulfate; sucrose, glycerin or glucose; and (5) Use of unbleached, undesulfurized fiber to minimize damage to regenerated-cellulose rayon.

Use of phenol, glycerin, etc., in the mercerizing liquor, while it protects the rayon, was found to be impracticable on account of the high cost of materials and the difficulties encountered in recovering and reusing the caustic.

Use of Caustic Potash

Use of caustic potash, though its cost is $7.05 per 100 lb. against $3.35 per 100 lb. for caustic soda, is not so expensive as it would seem at first sight. With up-to-date mercerizing machines it is usual to recover around 83% of the caustic soda used in mercerizing. This applies equally to caustic potash. There is one point against the use of caustic potash, and that is that most bleacheries use their recovered mercerizing lyes for kier boling, so that the high cost of the potash salt would prohibit its use unless the recovered lye is used to replenish the mercerizing liquor. Where all-cotton as well as rayon-cotton goods are being mercerized, use of caustic potash necessitates either a separate recovery system or employment of caustic potash for mercerizing the cotton goods. There are, however, objections to both of these methods.

Formula for Caustic Potash

To obtain the same degree of mercerization with caustic potash as with 56° Tw. caustic soda, it is necessary to use the former at 70° to 72° Tw., containing 36% pure potassium hydroxide. The following figures were obtained with 4.85-yd. fabrics:

Material mercerized	24,952 yd.
Total caustic potash absorbed	1,782 lb.
Total caustic potash recovered	1,481 lb.
Total caustic potash used and lost in process	301 lb.
Cost (for material only) of mercerizing with caustic potash	$21.22

Caustic Soda

In the regular mercerization with caustic soda of 56° Tw. and washing off with a 10% brine solution, it is assumed that the material after leaving the mangle (which generally has an expression of 100%) will absorb its own weight of caustic soda at 56° Tw. (25% pure sodium hydroxide). In order to prevent swelling and consequent disintegration of the regenerated-cellulose fiber it is essential to reduce the strength of this caustic soda below 20° Tw. as quickly as possible; it is found to be satisfactory to reduce it to about 15° to 16° Tw.

This is accomplished by washing the material with 2½ times its weight of 10% brine, then with hot water, and next with cold water.

Formula for Caustic Soda

For 24,952 yd. at 4.85 yd. per lb. this will necessitate the use of about 1,300 gal. of brine containing 1,275 lb. of salt, of which about 40% is lost in process. Furthermore, instead of 83% efficiency in the recovery system about 75% only is possible with this method. The results obtained by this method are as follows:

Total caustic soda absorbed	1,237 lb.
Total caustic soda recovered	928 lbs.
Total caustic soda used and lost in process	309 lb.
Cost of caustic soda	$10.35
Total amount of salt delivered to system	1,275 lb.
Total amount of salt recovered from system	765 lb.
Total amount of salt used and lost in process	510 lb.
Cost of salt at $0.70 per 100 lb	$3.57
Total cost of materials	$13.92

Caustic Recovery

When the caustic-soda-brine washings are recovered and concentrated, it is found that the salt gradually separates out, being almost completely insoluble in concentrated solutions of caustic soda. About 2% to 4%, however, remains in solution, but does not effect subsequent mercerizing adversely.

It has been found that the counter-current system of concentrating the caustic-soda-brine washings, whereby the dilute solution is sprayed on and sucked through the cloth while in the clips, cannot be applied to this method; for at some position in the tenter the cloth is bound to be saturated with 20° Tw. caustic soda, with consequent swelling and disintegration of the rayon. Use of hot water for washing after mercerizing is infinitely better than cold water, but does not entirely eliminate the swelling of the rayon and subsequent loss of softness, strength and luster.

These methods are applicable only to rayons of the regenerated-cellulose type, but they are particularly beneficial to cuprammonium rayon. As a rule, this latter type has the greatest affinity for direct colors of all the regenerated-cellulose rayons. If union goods of cuprammonium rayon and cotton are mercerized as described above, the affinity of the cotton approaches that of the rayon sufficiently to enable the goods to be dyed satisfactorily, and so avoid such troubles as were mentioned at the beginning of this article.

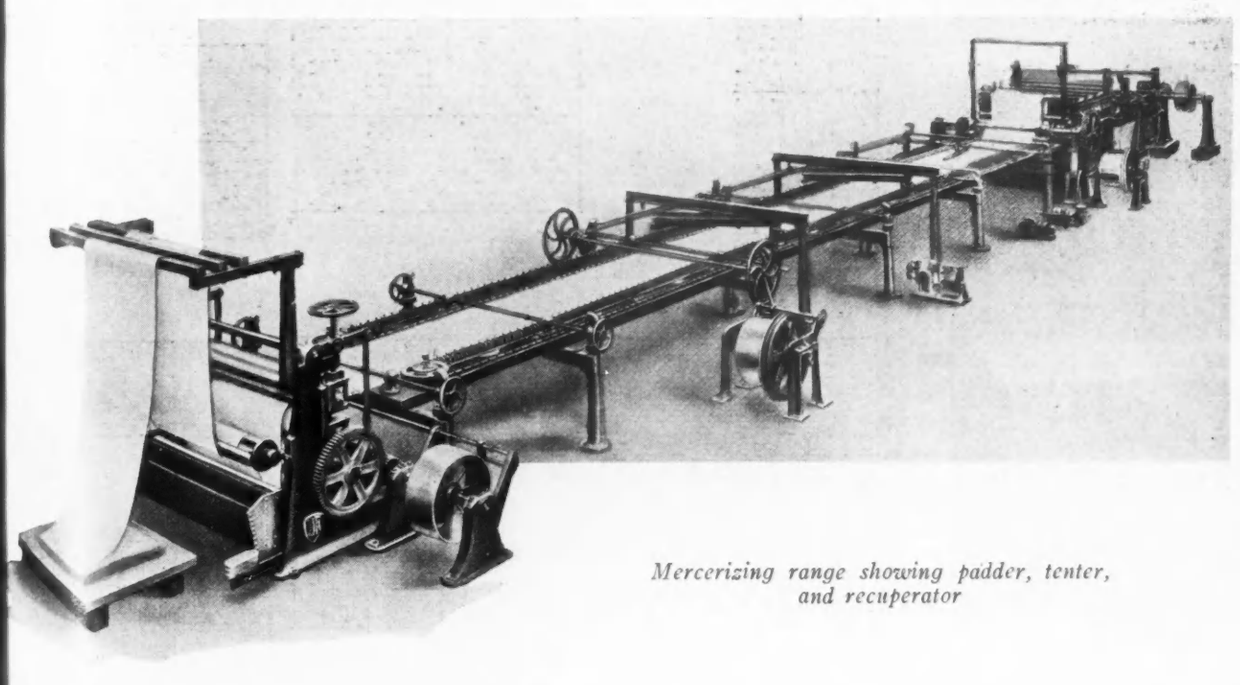
Acetate-Rayon Fabrics

Mercerizing of cotton unions containing acetate rayon presents quite a different proposition to the finisher. The action of caustic alkalis in general is to saponify acetate rayon either partially or wholly according to the severity of the treatment. It is well known that hot caustic soda solutions effect this saponification more readily than cold ones of the same concentration; but what is not so well known is that concentrated solutions have less action than dilute ones. This is probably explained by the fact that acetate rayon is penetrated with difficulty by water solutions; and the more viscous these solutions, the less penetrating they are. Statements have been made that acetate rayon is not saponified by caustic soda of mercerizing strength. Actually, there is always a slight ammount of saponification of the acetate rayon to form cellulose; and prevention of subsequent swelling and solution of this cellulose presents two main problems.

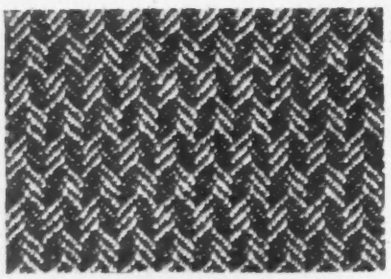
From results obtained by washing viscose-cotton fabrics impregnated with 56° Tw. caustic, it will be obvious that washing caustic-impregnated acetate rayon goods with cold water will cause swelling and solution of the small amount of regenerated cellulose caused by superficial saponification. On the other hand, if hot water is used for washing, there would undoubtedly be a tendency to prevent swelling and solution of the slight amount of cellulose caused during impregnation with 56° Tw. caustic soda; but hot water in combination with the caustic soda extracted from the material causes saponification of the acetate rayon.

The obvious remedy, and one which is proving entirely satisfactory in practice, is to wash the caustic-impregnated fabrics containing acetate rayon in 10% cold brine, and thus prevent disintegration of the small amount of cellulose regenerated by saponification during impregnation.

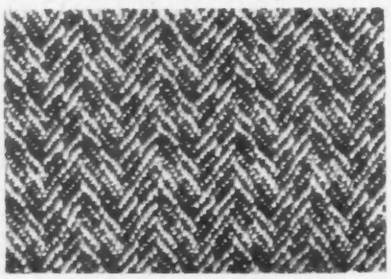
Use of unbleached rayon in these unions is recommended because all bleaching operations tend to produce oxycellulose, which is soluble in the caustic soda.



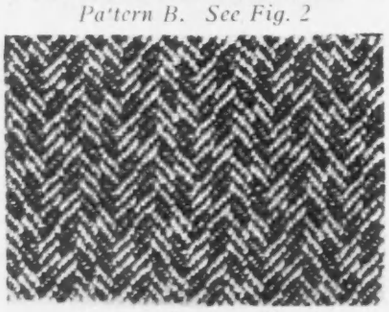
Mercerizing range showing padder, tenter, and recuperator



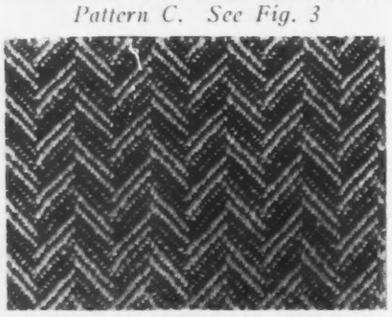
Pattern A. See Fig. 1



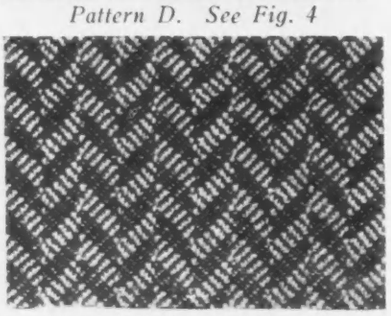
Pattern B. See Fig. 2



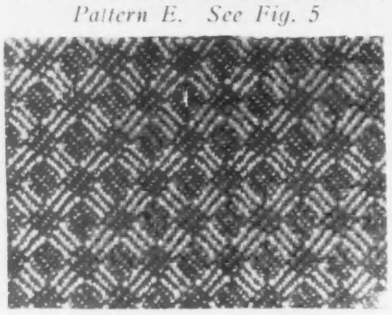
Pattern C. See Fig. 3



Pattern D. See Fig. 4



Pattern E. See Fig. 5



Pattern F. See Fig. 6

Crow Twill Applied t

By Alexander

IN DESIGNING fancy worsteds, the crow-twill weave, or—to give it a more descriptive name—the three-and-one twill, forms a very useful base for the production of stripe, check, and small figured styles. It possesses a distinct advantage over the two-and-two twill, inasmuch as it can be used as either a warp or a filling weave, thus permitting the bulk of the warp or the filling yarns to float on the face of the fabric as desired. This feature is useful, therefore, if it is required to emphasize, or obscure, one series of yarns. The chief advantage of this feature is obtained, however, when the warp and filling twills are combined to form a design, especially if the warp and filling colors be of strongly contrasting shades, such as a light warp and a medium or dark filling, or even two distinct colors; because the pattern form, due in the first place to the combination of the two weave elements, is "lifted up" by the color scheme and made more prominent.

Patterns A to L have all been made by combining the warp and filling twills, and have been woven in 2/30s Botany worsted with 48 threads and 52 picks per inch. The reed width was 68 in. for 56 in. finished; and the weight per yard, 14 ounces. In each case a light color was used for the warp, and a dark one for the filling. The light shade, therefore, is exhibited on the face of the cloth by the warp twill; and the dark shade, by the filling twill. The designs for the patterns are given in Figs. 1 to 12 respectively.

Herringbone Twills

Figs. 1 to 3 are all made on the principle of "herringbone" twills by cutting and reversing in sections; but, as each vertical line is composed of alternate bands of warp and filling twill, the herringbone effect is subordinated and broken up by patches of dark and light. In Fig. 1 (Pattern A) each vertical line consists of three bands of warp and filling twills respectively, alternate

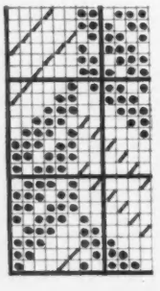


Fig. 1. Small "drop" pattern effect

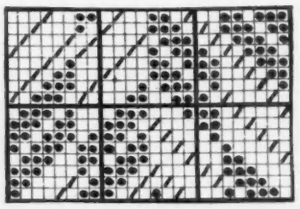


Fig. 2. Colors mixed more intimately

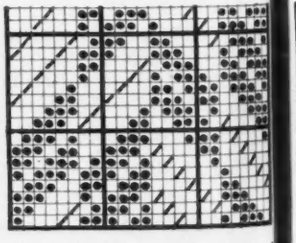


Fig. 3. Pattern bolder and better defined

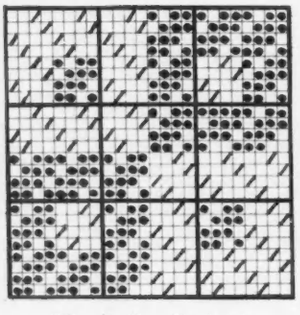


Fig. 7. Small check

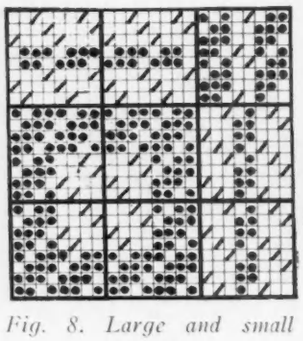


Fig. 8. Large and small squares

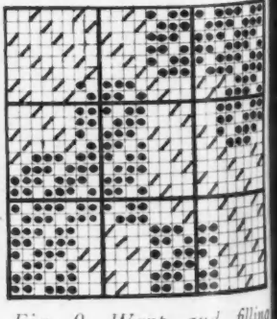


Fig. 9. Warp and filling twills in opposite directions

to Fancy Worsteds

Yewdall

lines being twilled to the left, and cut when they change direction. This results in the dark and light colors opposing each other in position, and forming a small "drop" pattern effect in the cloth.

In Fig. 2 (Pattern B) each vertical line consists of two bands of the twill elements, but repeated in the same direction, and then repeated twice in the reverse direction, each one of the four groups cutting with its neighbor. This design, because of its smaller weave groups, mixes the colors more intimately, producing a neat, yet striking, figured effect.

Fig. 3 (Pattern C) is designed in a similar manner to Fig. 2, but the amounts of warp and filling twill are different in each line section. In the first line, there are two bands of warp twill and three of filling twill, these amounts being reversed in each successive section. The result of this arrangement is a bolder and better-defined pattern.

Figs. 4 and 5 both show the herringbone effect distinctly, and may be described as figured herringbone styles. In Fig. 4, each line consists of two bands of warp and filling twill extending over twelve threads—hence the bolder and stronger pattern when compared with the preceding examples. Fig. 5 is constructed on a different system, the main twill to the right being composed of bands of the two weave elements, running, however, to the left; and the main twill running to the left has its component twills running to the right. The two main sections cut perfectly with each other. It will be noticed that the groups of warp twill are formed with "square-ends" in order to make them more symmetrical and also to give them a greater degree of prominence. These two designs are illustrated by Patterns D and E respectively; and it will be seen in the latter pattern that the contrast set up by the "cross-twills" —due to the main twills being composed of short

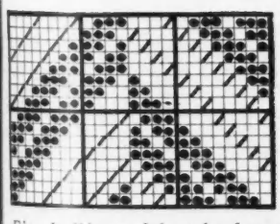


Fig. 4. Figured herringbone

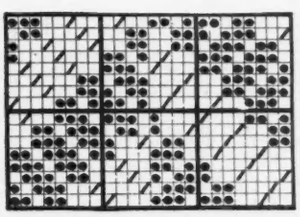


Fig. 5. Brighter and more sparkling

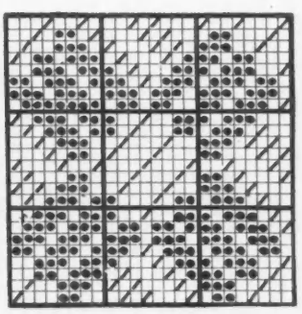


Fig. 6. Diamond design

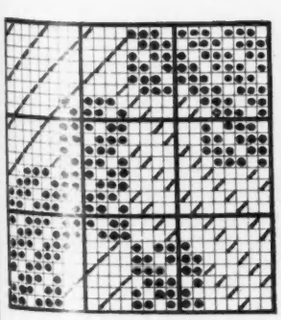


Fig. 10. In same direction in one section, reversed in next

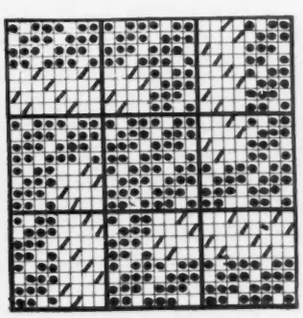


Fig. 11. Series of short vertical and horizontal lines

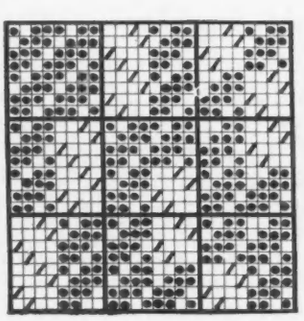
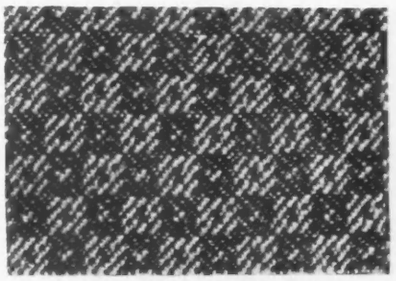
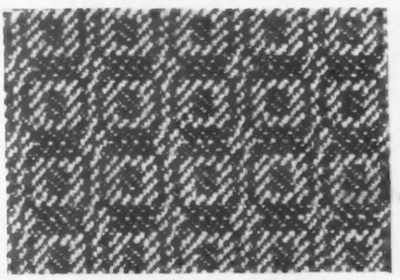


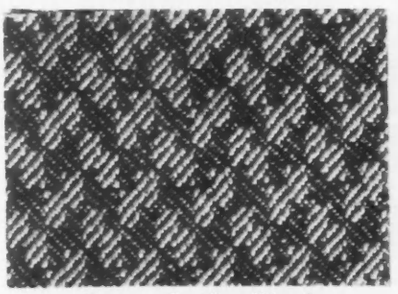
Fig. 12. Six sateen figures grouped in threes



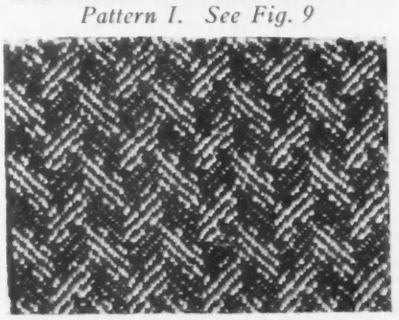
Pattern G. See Fig. 7



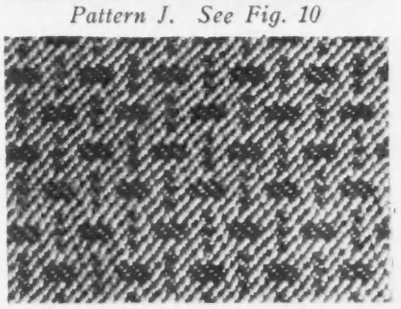
Pattern H. See Fig. 8



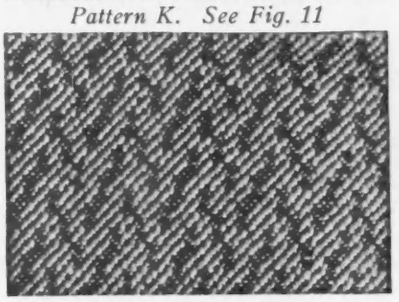
Pattern I. See Fig. 9



Pattern J. See Fig. 10



Pattern K. See Fig. 11



Pattern L. See Fig. 12

twills running in the opposite direction—gives a brighter and more sparkling effect than that obtained in the former pattern, in which the unit twills run in the same direction as the main twills.

Fig. 6 is a small diamond design built up from a square-check foundation, the opposite corners of the design being exactly alike. As in the previous example, the warp twills are made with square-ends in order to give a better definition to the diamond shape. This design is illustrated by Pattern F.

Fig. 7 (Pattern G) is a small check made on a four-square base, but elaborated by breaking up the center of each square with four threads and picks of the opposite weave element. It will be noticed that the different

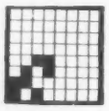


Fig. 9a. Basis for Figs. 9 and 10

Fig. 11a. Basis for Fig. 11

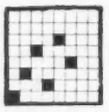


Fig. 12a. Basis for Fig. 12

sections of warp twill always begin with a square-end as mentioned before, but in this case it is used for the purpose of enabling each like-section to take up the same relative position in its opposite corner; and also to permit of the formation of perfect cuts throughout the design, which would not be possible if the twill were started in the normal manner, as seen in Fig. 1.

Fig. 8 (Pattern H) is a more elaborate pattern composed of a large and a small square of warp twill running to the right, and a vertical and a horizontal rectangle of filling twill. Each section is modified by the opposite twill—the large square by a small one in the center; the small square by a vertical line down its center; and the two rectangles by central lines placed vertically and horizontally, respectively.

A large variety of very effective figured styles can be obtained by using elementary weaves and their derivatives, or simple motifs for the figuring bases. Figs. 9A, 11A, and 12A show three such bases, from which Figs. 9 to 12 have been constructed.

In both Figs. 9 and 10 the form of the pattern is obtained from Fig. 9A, each square of the weave derivative representing six threads and picks in the figured design. The warp twill is filled in on the squares represented by the solid marks in the derivative, and the filling twill is filled in on the corresponding blank squares.

As showing the great scope there is for obtaining variation in design detail, it may be pointed out that in developing Fig. 9A there are several possible arrangements of the component twills, four of which are given, as follows:

1. The warp twill may run to the right, and the filling twill to the left throughout the design, as in Fig. 9 (Pattern I).
2. The warp and filling twills may run in the same direction in one section line, and be reversed in the next line, as in Fig. 10 (Pattern J).
3. Both twills may be reversed in position in the opposite figures of the base; in one line section the warp twill may run to the right, and the filling twill to the left, these positions being reversed in the next line.
4. Both twills may run to the right throughout the design.

In each of the foregoing designs, the warp and filling twills are used in equal quantities, so that the warp and filling yarns are exhibited to an equal degree on the face of the cloth. Figs. 11 and 12, however, are designed with the object of giving prominence to the warp at the expense of the filling.

Fig. 11 (Pattern K) is built up from the motif, Fig. 11A, each square of the motiff representing four threads and picks in the design. The filling weave, developed in the dark shade, forms a series of short vertical and horizontal lines resting on a light-shade warp ground.

In Fig. 12 (Pattern L) a six-end sateen derivative—formed by linking up the crossing-floats of the sateen—as shown in Fig. 12A, serves as the base, upon which a design on 24 threads and picks is built. The light-colored warp forms the ground for the display of the six sateen figures developed in the dark shade, which, it will be seen, are grouped in threes, running to the right and left alternately.

In coloring designs composed of warp and filling twills, fancy twist yarns can be used with advantage for the warp instead of self colors, as shown in the patterns; and further attractiveness in appearance may be obtained by the addition of a bright-colored stripe or overcheck.

S.N.E.T. Club Reelects Its Officers

THE annual meeting and 143rd dinner of the Southern New England Textile Club was held in the Pomham Club, Riverside, R. I., Saturday, June 21. About 150 members and guests were present. There was a buffet lunch served followed by a regular Rhode Island clambake. The committee in charge of arrangements was Frederic W. Howe, John F. Reardon and Henry C. Dexter.

President William S. Pepperell called the business meeting to order at 1:30 p.m., and, in the unavoidable absence of Philip C. Wentworth and Wilfred C. Murphy, joint secretaries, the reports were read by Raymond C. Munroe. The membership of the club had made a slight decrease for the year, from 524 to 502. Financially the organization was in a good position, operations for the year resulting in a net gain in surplus of $600. The club voted the usual $100 donation to the Rhode Island School of Design, which it is in the custom of presenting.

John T. Balmer reported for the nominating committee, other members being Frank L. Bills, and Herbert G. Beede. The entire list of officers was re-elected with the substitution of John T. Kirk of the Nashawena Mills, New Bedford, in place of Jesse A. Knight, who, after many years service on the executive committee, wished to be relieved of further duty.

The list in full is as follows: President, William S. Pepperell; first vice-president, Frederic W. Howe; second vice-president, William O. Buzzell; joint secretary-treasurer, Philip C. Wentworth and Wilfred C. Murphy; auditor, Herbert G. Beede. Executive Committee comprised the following: E. Russell Richardson, Henry Ashworth, Antonio Spencer, Hugh J. Gourley, Robert Steere, Erwin N. Darrin, Arthur B. Barnes, Frank L. Bills and John T. Kirk.

Labor Restrictions Favored by S. C. Manufacturers

Thomas Marchant, Reelected President of Cotton Manufacturers Association of South Carolina

ADOPTION of a resolution favoring the 55-50 plan, as sponsored by The Cotton-Textile Institute, and the expression of sentiment against the employment of women and minors at night were among the features of the annual meeting of The Cotton Manufacturers Association of South Carolina, held at the Ocean-Forest Hotel, Myrtle Beach, S. C., June 20-21. Attendance was large.

Thomas M. Marchant, of Victor-Monaghan Co., Greenville, S. C., was elected for the third time as president of the association. Other officers elected were, as follows: J. C. Self, Greenwood, S. C., first vice-president; R. E. Henry, Greenville, S. C., second vice-president; Herbert Lindsay, Greenville, S. C., secretary and treasurer.

Members of the new executive committee elected at the Myrtle Beach meeting, follow: Z. F. Wright, Newberry, S. C., Alfred Moore, Wellford, S. C.; Irving Southworth, Boston, Mass. and Columbia, S. C.; C. M. Bailey, Clinton, S. C.; George M. Wright, Great Falls, S. C.; H. Arthur Ligon, Spartanburg, S. C.; E. A. Smyth, Flat Rock, N. C.; V. M. Montgomery, Spartanburg, S. C.; J. C. Evins, Clifton, S. C., and W. E. Beattie, Greenville, S. C.

Following an address of welcome by Colonel Holmes B. Springs, the cotton mill executives of South Carolina were complimented by George A. Sloan, president, The Cotton-Textile Institute, for setting a splendid example for the industry during the spring and summer months. He recalled the courageous initiative of four or five leading manufacturers of the State during the latter part of the spring in deciding upon a policy of operating alternating weeks for the purpose of correcting the abnormal stock situation that developed after the upheaval in financial markets last autumn.

The constructive example set by these leaders has since been followed by mill executives in other sections of the country, according to Mr. Sloan, who concluded his address by urging cotton manufacturers to give their undivided thought and attention to market conditions and to statistical information and to plan their production and merchandising policies accordingly.

Characteristic of his previous messages to the members of his association, President Marchant emphatically urged the recognition and endorsement of constructive and progressive policies with regard to merchandising, employment and raw material problems. He declared that the time has come for sound and honest thinking, for confidence in one another, and for the abolition of all selfishness.

Mr. Marchant suggested further steps than those already taken. He said:

"I wish to congratulate the manufacturers present for adopting the 55-50 weekly working schedule, and while we all realize even this basis is not sufficient today to correct over-production, it is a step in the right direction and will prove beneficial if every manufacturer will adopt it.

"Sentiment is growing throughout the nation that balancing production with demand is vitally necessary if the industry is to succeed. As I have already stated, drastic curtailment is economically unsound. Therefore, to guard against discontent on the part of the employes and to stop unfavorable legislation and bring about a more friendly spirit between employer and employe, I again bring to your attention, as I did a year ago in my annual address at Asheville, and ask your personal consideration in working out some plan or program where the *discontinuance of working women and minors at night will be effected.*

"Night work in our cotton mills is responsible for the unsettled condition in this great industry, and until we are ready to face these facts in an intelligent way, and balance production to demand, this industry of ours cannot be placed upon a sound basis.

"During the last several years, the mill executives have made some reduction in the number of children between 14 and 16 years of age employed in their plants, but may I call to your attention the statement I made one year ago, that in the five plants of the Victor-Monaghan Co. there were 112 children between 14 and 16 years of age, or about 3½% of more than 3,000 employes. Today, I am pleased to say that we have only 18 children working in our five plants under 16 years of age, and none under 15. In a few months more we do not expect to have a worker in our plants under 16 years of age.

"If voluntary cooperation cannot be secured, would it not be more profitable to have uniform laws in all textile manufacturing States, prohibiting the working of women and minors at night, which would guarantee to you and your stockholders a fair return on their investment, putting you in position to pay higher wages to your employes, and lift this industry out of what is generally known as the 'low wage' class?

"Or, shall we disregard entirely all the laws of supply and demand, continuing to operate our plants on full time schedule, both day and night, losing all opportunity to secure a reasonable profit and stabilize the industry, which our stockholders and the business world in general should demand?

"Today bankers are much concerned over the demoralized state of the cotton goods industry, and business men over the nation cannot understand why, with the remedy in our hands, we do not correct our troubles and put this important industry on a sound basis."

Specifications for Fabrics to be Rubberized

By S. G. Byam and L. R. Bailey

IN the first instalment of this article (TEXTILE WORLD, June 14) the authors discussed the quality, width, thread count, weight, and length of cuts specified for fabrics to be rubberized. They now continue with an examination of tensile-strength specifications for textiles used in the automotive and general proofing industry.

IN LINE with the interest aroused generally throughout all industrial lines of consumption in specifications, considerable attention has been paid of late to the tensile and tearing strength of cotton fabrics for coating purposes. This awakening to the value of setting up proper minimum limits for the various fabrics which are fed into the coating machines is indicative of growing acknowledgement on the part of the manufacturers of the major importance that the base fabric plays in the finished, coated goods.

While some concerns have refused to sell their fabrics under tensile-strength specifications, those mills who realize the problem which the coating industry has to meet are very willing to cooperate with a proper margin of safety. In the present condition of the industry with its potential and actual overproduction, those mills will survive who cooperate with the user of the fabrics and endeavor to build and deliver that type of fabric which will best suit his peculiar needs rather than that which the mills might best like to run.

Tensile strength—

There has been a great deal of work done within the last year by the coating industry toward the development of minimum tensile strengths in their coated products and the specifications of the cotton fabrics in terms of minimum tensile strengths. This has been due to desire to standardize the product, to meet demands of customers, and to improve the industry as a whole. The Proofers' Division of the Rubber Association of America has set a minimum on coated fabrics for raincoat use of 25 lb. each way, feeling that less than that would result in a raincoat which would not stand up under the strain of service. This has been translated into specifications of 30 lb. each way on gray goods to be dyed or bleached and 25 lb. on dyed yarn, and dyed, or bleached goods. The industry, while not entirely accepting these specifications, has found great benefit from them.

Some of the automobile-body manufacturers have set up tensile-strength specifications on the coated fabrics which they use for top material. These have in ordinary cases been based on a number of tests made on actual fabrics or on tensile strengths deemed necessary in service. However, in some cases the manufacturer has set up tensile strengths far in excess of the most optimistic promise of an eager salesman for a mill needing business to clear out excessive year-end inventories. In one case a tensile strength was set up at least 100% in excess of what has been found to be actually possible with the fabric in question.

In order to serve as a guide for the coating manufacturer the Fabric Manufacturers' Division of the Rubber Association and the Pyroxylin Coated Fabric Manufacturers' Association are working with The Cotton-Textile Institute and the Wide Goods Group of the Association of Cotton Textile Merchants of New York for the purpose of setting up minimum tensile-strength specifications on certain fabrics made and sold by the Cotton Fabric Associations, bought and coated by the Rubber and Pyroxylin Manufacturers, and in time sold to the automotive-body manufacturers. With minimum tensile strength set up, it is felt that the coating houses will be in a position to know just what is possible for a certain coated fabric to stand in the way of stress strains, and so build the proper coated fabric for the particular purpose in mind. This will help settle the present uncertain attitude of the industry in regard to this much discussed subject.

The variation in the strength of standard fabrics has proved an obstacle to the attempts made to meet the severe conditions laid down. This variation in gray goods strength has also prevented the establishing of definite figures of strength and has made necessary leaving these definite figures out of any general specification, to become part of, instead, the purchase contract covering a given fabric. It is hoped that in time it will be possible to furnish advance figures to the textile manufacturer of exactly what strength is required in every fabric used and to be able to obtain standard constructions of these fabrics with this strength present uniformly.

Tensile strength can be overemphasized, however. Some coated fabrics are used for purposes where tensile strength is not required. For instance, a piece of light-weight fabrikoid pasted on the interior of a pencil box which must resist only scuffing, need have no high tensile strength. The fabric need have only strength enough to stand the strain of going through the coating operations. It would be most uneconomic to set a tensile strength far beyond the actual needs of the coated goods. It seems to be true that when fabrics have been used with regard to tensile strength, the user, in attempting to set up specifications for the goods, goes too far and sets specifications which are far beyond the possibilities of the fabric in question. This is a somewhat natural reaction for the human mind. Without due checks, the rebound is likely to be too extreme. Specifications without due regard to the actual possibilities of the fabric and the actual needs of the coated goods are without the basis of reason.

The tensile strength or resistance to rupture of the coated goods in service is usually in direct proportion to the tensile strength of the gray fabric. The addition to the tensile strength due to the coating is problematical and depends on several factors. On single-texture work coated with rubber the additional tensile strength added is not very great, usually not more than 5 or 10%. When the goods are desized or dyed before coating, the loss in tensile strength in the finishing is approximately the same as the gain due to the coating; so that in estimating the tensile strength of single-texture coated goods on a dyed or desized fabric base, the actual strength of the gray goods is usually employed.

This addition to the tensile strength is also dependent on the weight of the coating, the type of coating, and method of application. Due to the elasticity of the usual type of coating, the fabric often ruptures before the coating; therefore the full value of the coating is lost as far as additional tensile strength is concerned. In the coating of fabrics with pyroxylin, or a method in which the fabric is more or less impregnated with the coating

due to the comparative thinness of the coating fluids, the tensile strength may be increased as much as 30% or 35%. This increase is due to the impregnation of the fabric with the pyroxylin anchoring the fibers together; also the coating is not much more elastic than the fabric, so that the fabric and the coating both rupture at about the same time.

In double-texture work the tensile strength of the combined and coated fabric is higher than the sum of the tensile strength of the individual fabrics. This is due to the impregnation of the fabric by the compound. A fabric does not break solely because of the rupture of the actual cotton fibers, but from the slippage of the fibers in the yarn in addition to the breaking of the fibers; so that when the fibers are so held by the impregnation of the fabric with some adhesive agent that the fibers will not slip under tension, the yarns do not give until the fibers themselves break. This enables the coated fabric to withstand a tension of from 20 to 30% more than theoretically would be possible by a mere addition of the total breaking strength.

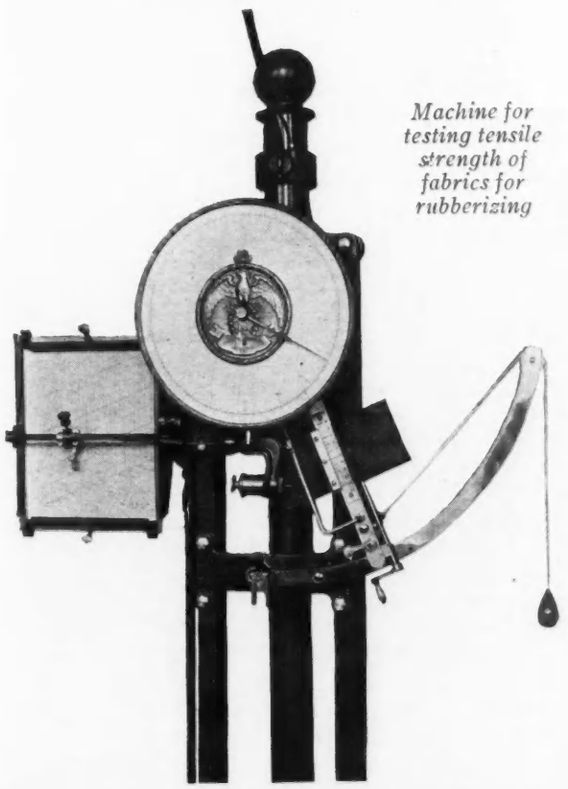
By some methods of impregnation some soft spongy fabrics have been found to have up to 100% more tensile strength than before coating. This is due to the binding of the fibers in the yarn and the interlacing of the fibers in the compound, forming an interlacing mass along the line of a felt.

The relation between tensile and tearing strength has not been given a great deal of study, though it will undoubtedly well repay considerable thought and investigation. However, it seems to be true that a fabric made of hard-spun yarns and coated, while it has a high tensile strength, is much inferior in tearing strength to a fabric made of softer spun yarns and coated. This is probably due to the fact that the fabric of hard yarns is somewhat stiffer, and each yarn is broken one by one, while a fabric made of softer spun yarn gives a little, so that the strain is spread over more than one yarn at a time.

Test to determine tensile strength—In making tests for tensile strength the A.S.T.M. 1x1x3-in. grab method shall be used. The average of five determinations in the direction of the warp and five in the direction of the filling shall be not less than the specified tensile strength.

This test is standard and well understood in all industries having any occasion to use it. The grab test has been specified because of its simplicity and speed, two qualifications necessary for any method of routine testing. Unquestionably, equally satisfactory results can be obtained by the strip method, but it has the disadvantage of requiring much preparation of the samples to be tested. Textile manufacturers have indicated some fear that unfair advantage may be taken in this matter of strength specification; but inasmuch as any dispute would be settled by tests made by an agreed-upon neutral party this can be disregarded.

A full description of the "Standard General Methods of Testing Woven Textile Fabrics" under Serial Designation: D 39-27 as promulgated by Committee D-13 is given in *A.S.T.M. Specifications and Methods of Test for Textile Materials 1927*, p. 5.



Machine for testing tensile strength of fabrics for rubberizing

Machine for testing tensile strength—The back half of each pair of jaws shall be 2 in. or more in width and the front half shall be 1 in. in width. The jaws shall be planed smooth and flat with edges slightly rounded to prevent cutting. The initial opening between jaws of the testing machine shall be 2 in. and the pulling jaws shall travel at a uniform rate of 12 in. per minute. Test pieces shall be 6 in. long x 4 in. wide, and no two test pieces shall include the same threads.

Tensile strength is determined by testing in a machine designed for that purpose. This used to be done by a machine driven by hand. This method was quite unreliable and the accuracy of the result was dependent entirely on the skill of the operator. In fact almost any answer could be secured by manipulation. With the introduction of the electrically driven machines this variable was minimized. However, the skill of the operator is still quite important in securing an accurate result. The machine is so constructed with movable jaws, one attached to an indicator moving around a circular dial and the other attached to the moving force which pulls it down, that the indicator shows the tension in pounds up to the point of rupture. The machine is made either vertical or horizontal; the horizontal is used mainly for heavy strong fabrics, and has a capacity up to 600 lb. and sometimes 800 lb. The vertical is made in several sizes, some machines being made with two capacities, dependent on the weight used on the balance.

The machine for testing tensile strength as standardized at the present time meets the specifications drawn up by Committee D-13 of the American Society for Testing Materials. This machine, which has the serial designation D 76-27, is described in detail in *A.S.T.M. Specifications and Methods of Test for Textile Materials 1927*, p. 10; American Society for Testing Materials, Philadelphia, Pa.

Standard Test Conditions—Tests shall be made at prevailing atmospheric conditions, except in the settlement of disputes regarding strength. In such case tests shall be made on material which first has been brought to normal moisture condition, obtained by exposure for four hours to an atmosphere having a relative humidity of 65% at 70°.

It is well known that humidity conditions exert a marked effect on the breaking strengths of cotton fabrics, so these are specified to apply in case of a dispute; ordinary routine tests are usually made under normal room conditions, check tests under standard conditions.

Some laboratories do not have conditioning rooms or conditioning ovens. In this case they ordinarily run their tests under natural atmospheric conditions. Due to the natural variation of temperature and relative humidity during the space of a day, much less a year, the results by this method are not to be relied on. While they may be accurate within 25%, this is hardly a close enough limit to use in either accepting or rejecting fabrics. There is sufficient variation due to different machines and different operators without introducing also the variation due to moisture content. We can assume then that unconditioned tests are unreliable except to give the comparative strength of fabrics which have been tested at the same time and exposed to the same conditions. However, in comparing a test made now with a test made tomorrow or next year there is no definite surety that the comparison is accurate. Records based on actual atmospheric conditions are subject to too great variation. It has been determined that the tensile strength of cotton either as fiber in yarn or fabric increased in actual proportion to the moisture content of the cotton. The moisture content may vary from absolute dryness—as determined by a loss of no more than 0.1% of the previous weight when placed in a ventilated drying oven maintained at a constant temperature from 100 to 110° C. and weighing at intervals of not less than ten minutes—to the saturated condition when the cotton is wet. This actual change in tensile strength due to the change in moisture content is dependent on the actual yarn or fabric. For general purposes it can be figured out on a percentage basis which runs about as follows: For each 1% regain add to the tensile strength of the bone-dry fabric 0.37% per oz. of fabric weight per sq.yd. Under standard conditions, that is, after the cotton fabric has been exposed to air at 5% relative humidity at 70° F. for four hours or more, the normal moisture content is about 6 to 6½%. Due to this, some determine the tensile strength in the bone-dry condition and figure the tensile strength at 6½% moisture regain in accordance

with the method worked out by the A.S.T.M. and shown in the 1927 pamphlet.

This method, unless performed by a skilled and rapid operator, is prone to inaccuracy, due to the rapidity with which cotton absorbs moisture. Unless the fabric is broken immediately on removal from the oven, it will absorb 1 to 2% of moisture, light fabrics being especially prone to do this.

The determination of tensile strength is a task requiring considerable skill and care. Too often it is delegated to some one who, thinking it merely routine, does not take the requisite care in breaking the samples. This can only result in a lower break or in a variation in breaks. There are several things to watch for in testing: First, the samples should be exposed to standard condition long enough to enable the cotton to pick up its normal percentage of moisture. The conditioning apparatus should be very carefully watched to make sure there is no deviation from standard. Second, care should be taken in the actual break. This is undoubtedly the source of most defective tests. The sample should be fixed in the jaws so that it will not slip. It should be so arranged that the upper and lower jaw are pulling on the same threads. If some threads are omitted, a lower break is bound to result. There should be an even pull; if the sample is tight on one edge and slack on the other, a low break will result. We assume that the machine will be calibrated often enough to assure the tester of its accuracy, and that the samples are correctly made up and tested in accordance with standard procedure.

There is considerable variation, using given methods of tests on given samples, in the results secured by different laboratories of supposedly equal ability. We show three charts, giving the results obtained by these testing laboratories on a 42-in. 35-oz. belting duck. The tests were made by two methods, the bone-dry and after having been conditioned overnight under standard conditions. The tests were made by the A.S.T.M. grab method. Fig. 1 shows the percentage variation, above and below the average of each laboratory, on the warp; Fig. 2 shows the percentage variation above and below the average on the filling; and Fig. 3 shows the percentage variation above and below the average on the combined warp and filling. The solid line *A* in each case represents the conditioned samples, the dotted line *B* the bone-dry. It will be noted from this that there is a variation in the conditioned samples in the warp of 18% total; in the bone-dry of 17% total; in the filling a variation of 18% in the conditioned samples and 20% in the bone-dry. In the combined warp and filling there is a variation of 16% in the conditioned and 18% in the bone-dry samples. These diagrams, we believe, are very illuminative and show the quite large variation which can be expected between different laboratories' tests. If these supposedly capable laboratories can vary as much as 18 to 20% in testing the same fabrics under bone-dry and standard conditions, is there any cause for surprise in finding greater variations than these on tests made by inexperienced laboratories under atmospheric conditions?

Due to the variation in tests made by different operators and the fact that many laboratories are not equipped with conditioning rooms or conditioning ovens, some users of fabrics have had great difficulty in applying tensile-strength specifications to the purchase of fabrics. Cotton, being a vegetable product, is variable in its nature. A test can never be absolutely checked, since a cotton yarn is not exactly uniform all through its length; and when a test is made at one place in a fabric there is no way of testing that same place again and the fabric is not exactly the same an inch away. In other commodities such as chemicals, coal, grains, etc., the lots can be thoroughly mixed and sampled with the knowledge that the sample represents the lot in all its characteristics. This, however, is not so with fabrics. The mills so mix their cotton—and during the process of manufacture, in the picking, carding, and, spinning the process of combining and averaging is so far carried out—that the woven fabric represents about as far as possible a uniform product.

Bearing in mind this natural variation in cotton fabrics, specifications can undoubtedly be set up which will allow for the purchase of fabrics having a minimum tensile strength. The average tensile strength of a fabric is not to be confused with the minimum strength. One mill from whom we have purchased fabrics for coating, and who has made a thorough study of tensile strength, figures that 15% below the average determination of a great number of tests is safe in being set as the minimum. This allows for the variation in cotton, spinning, etc. When dealing with cotton, a variable product, one must set up a sufficiently low limit in the specifications to cover the natural variation of the fabric, and should make sufficient tests so that the result will be truly the average of the lot.

A minimum tensile strength should be one which a well-made, well-balanced fabric made from good quality cotton will have no difficulty in meeting. It should not be so low that every fabric of the width, weight, and count will pass; but it should be low enough so that the good fabrics will be safe. In drawing up specifications the user should so set his specifications that he can use material which can be made by the greatest number of mills possible and which can be made without an excess cost, else he will be paying more for his goods than is necessary. However, he should have them high enough so that the mills will be constantly endeavoring to improve their product.

(To be continued)

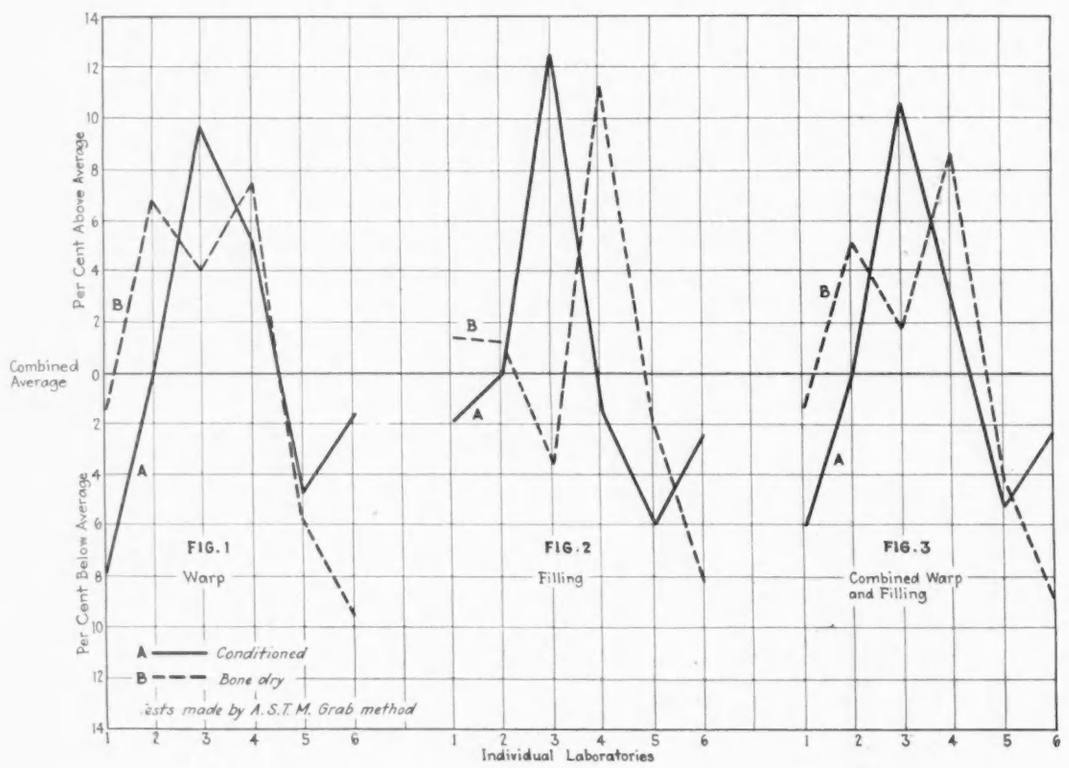
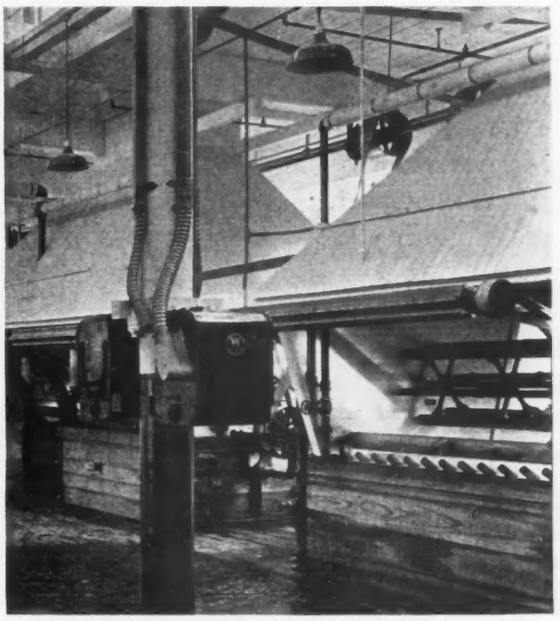


Chart showing variation from average of 6 laboratories' tests on tensile strength 42 in. 35 oz. belting duck

Dyeing and Finishing Cotton Plush

By Paul W. Youse

COTTON plush, previous to dyeing, should be examined and all weaving imperfections rectified. The cloth is then sheared and all the extremely high and low places in the pile are removed. Shearing is followed by a brushing operation, which removes the greater portion of the dirt from the cloth, and lays the pile in one direction. These operations in the gray greatly improve the finished merchandise and are essential on better grades of cotton velour.



Reel machines suitable for dyeing pile fabrics

After the above operations the cloth is ready for scouring and dyeing. If the merchandise is light in weight, that is, under 22 or 23 oz. per yd., it can be dyed in rope form; if, however, the weight per yard exceeds the above figures, better results can be obtained through dyeing the goods full width. This latter method avoids all selvage curls, and greatly minimizes the possibility of uneven dyeing.

Before dyeing, the goods are given a thorough boiling out with soda ash to remove all the wax, and a softening oil is generally added to aid penetration in dyeing.

The dyestuffs required to produce the desired color are mixed in the correct proportion in a separate vessel. The mixed colors before being added to the dye bath should be in complete solution, and added very slowly. Often feed tanks are placed in front of the dye tub, feeding the dyestuff into the bath through fine holes in a pipe which extends the full width of the machine. Flow of dyestuff is so timed that the feed tank will not be emptied before the goods make one complete revolution in the tub. This method of feeding also greatly reduces the possibility of unevenness. The goods are then allowed to boil until the desired color is obtained.

When the color match is satisfactory the goods are removed from the tub and run over the vacuum extractor. The number of times that the goods are run over the extractor depends on the efficiency of the apparatus and the amount of water the goods retain. After the maximum amount of water is removed, the goods are subjected to a tigering operation.

This operation is similar to carding; its purpose is to straighten and open the pile as much as possible before the goods are dried and stretched. The tiger is composed of a series of steel rollers. The upper rolls are covered with card clothing. These upper rolls are pressed into the pile of the fabric as it passes between the rollers, and in this manner accomplish the purposes mentioned above. The texture of the wire, that is the nogs and crowns per inch, and the height and flexibility of the wire used, depend entirely on the texture of the fabric. The higher and loftier the pile, the softer the wire, and *vice versa*. The goods are generally given a few runs on the tiger, both with the pile and against the pile before they are dried.

The drying and stretching apparatus is similar to that used in performing the same operation on other types of woven goods, consisting merely of two chains studded with gill plates which penetrate the selvage of the goods and hold the goods taut, while they move slowly through a series of steam coils.

When the goods are thoroughly dried they are rolled and not folded as they leave the drier. The rolling operation prevents creases, which generally occur in the event that the goods are folded after removal from the drier.

The goods now go through a series of dry-finishing operations, the first being a few runs on the tiger. The fabric is now in a thoroughly dried state, and the tiger not only opens and straightens the pile, but also brings the short fibers to the surface of the goods. After tigering a few times as in the wet state, both with and against the pile, until the above results are accomplished, the cloth is then given a thorough steaming and brushing.

The machine employed is composed of a steam box, over which the goods are run, exposed to live steam, and brushed thoroughly by a series of stiff bristle brushes. The steaming operation makes the goods soft and fluffy, thus allowing the bristle brushes to permeate the pile, and remove most of the short fibers. This operation is repeated until desired softness is reached.

Many of the short fibers are not entirely removed from the cloth, but seem to form a hairy surface on the face of the goods. In order to remove this surface and give the fabric a clean appearance, shearing is necessary. The shearing operation demands considerable skill as these machines are so designed to function precisely, and the slightest miscalculation on the part of the operator, when adjusting the height of the pile on the shear blade, will result in second quality merchandise.

If the fabric is in the heavy-weight class, the first finish will not be entirely satisfactory, and in order to produce a salable finish, the merchandise will have to be wet out and again submitted to all the operations mentioned. This wetting out and refinishing operation may have to be repeated several times to produce the effect desired. When the finish on the merchandise has been approved the goods are perched and rolled for shipment.

THIS ARTICLE is an abstract of a paper presented at the 29th annual meeting of the Alumni Association of the Philadelphia Textile School.

OVERSEERS' ROUND-TABLE

THIS department offers a new subject for discussion each week and gives readers' comments on problems introduced during previous weeks. The subject which was opened four weeks ago is closed this week and a summary of contributed ideas is given on opposite page

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Changing Workers from One Machine to Another

Editor, Overseers' Round-Table:

CHANGING WORKERS from one machine to another depends much on man, machine, and the size of the business concerned.

In some cases it is well to have men who can operate any machine. In a small business with workmen of average intelligence, such men are an asset. Where the output is larger and the flow of work constant, more work and efficiency may be expected by confining men to one job or machine. So long as a man is interested in his machine one can expect him to look after it. Some consideration should be given to the aspect that a change is good for most of us now and then.

Some men lack ambition and are satisfied to stand by the same machine year after year. Their routine and attention to the work is, as a rule, dependable. Leave them there. Move along the others who want to get out of the rut, but if moving is all they want and they prove incapable in a new capacity, move them back again or move them outside. The endeavors of the overseer must be centered on satisfied workers and production that satisfies his employers.

ARTHUR HUDSON

The Problem of Training New Workers

Editor, Overseers' Round-Table:

THE TRAINING of new workers should be based on several factors which are the results of experience. The overseer, when employing new workers, should use every precaution to see that he, or she, is placed with an experienced worker; one who is qualified to teach the avoidance of things which are detrimental, such as making inferior work, etc. In addition it is well to take into consideration the morals of a person before employing him. An overseer should be very careful on this point.

Workers should be taught more than one job. As they qualify for one position teach them another. When your help are taught in this manner it will prevent labor turnover, for they know that when an opening presents itself for a better job they are prepared and will get the place. In addition the mill will be saved money because it would cost more or less to acquaint a new hand with new conditions. Thus teaching your help more than one job is beneficial to the worker and to the mill.

In conclusion I want to say that I believe that experience is the best teacher.

W. R. ENNIS

Editor, Overseers' Round-Table:

THE TRAINING of new help is inseparably allied with the pupil's powers of understanding and the teacher's ability to explain intelligently.

The most proficient and intelligent workers are those who have a working knowledge of the operations leading to their own department. For instance, a weaver who understands dressing, patterns and draft reading will make better progress than one who is ignorant of these processes, for the former works with understanding and precision while the latter works to a specific formula and soon becomes a creature of habit.

The old method of letting the new help work along with an experienced operative has little to recommend it. Why

Warm Weather Brings the

"I SUSPECT that the hot weather has made us all rather lazy when it comes to discussing problems," Superintendent Chase turned on the electric fan and and glanced out the open window, "so unless someone has an important problem they want to bring up, I think we'll talk about something in keeping with the temperature. While you men were gathering for the meeting I glanced out the window and saw some kids playing ball over in the lot, so the question is: What about a mill ball team? I know that Joe here swung quite a bat in his day so perhaps he'll give us his opinions."

"I may be a little prejudiced," Joe replied, "but I can't help thinking that it would be a good thing for the mill and for the help. I really believe that it would give us a feeling of fellowship. It is the same as it is in the schools. When you see a gang of those you know out there playing for you, and you give a few cheers, you begin to feel a little better and regard your work not as a task that has to be done, but as something you have an interest in. I can't really describe the feeling a ball club would give to the organization, but I think you can get what I mean. Incidentally, I've been looking over the talent among the boys and I think that we could have a team that would lick the very—well anyway, that would lick the other mills."

"I'm afraid the trouble with Joe," Bill grinned, "is that he knows he's good and wants to have the honor of being captain of the team. But seriously, I don't think I can get very het up about a ball team despite the weather. Those things always start off all right and everyone has a lot of fun, but then the interest drags a bit and practicing butts in on other plans and pretty soon the team is a fizzle

Topic of Baseball

and you have less company spirit than when you started. Either that or the team is taken too seriously. First there is the temptation to employ a worker because he can play ball. I don't need to tell you the difficulties and jealousies which can arise among the regular help by having an inefficient worker on the payroll just because he can play ball. The next step is to employ out and out ringers who don't do any work at all but play baseball. Then the other mills accuse you of playing ringers and there is a sweet time all around. A good ball team may be a sort of advertising, but I can think of a lot better ways. No, Joe, I'm afraid that ball teams and such are a poor policy."

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Do *you* think that a mill secures improved morale by having baseball, basketball and other teams?

Overseers and others are invited to discuss this and other questions brought up in the super's talks. Letters accepted and published will be paid for without regard to length. Brevity is desirable.

not give the new help an introduction to the preparatory processes, thereby giving them an opportunity to study the continuity as well as the purpose of the various processes? The accrued knowledge could not fail to quicken interest in the work. We do not send a person to college without preparatory education, so why not adopt this method in training new help? This plan of action would meet the purposes of a training school at much less cost.

ROBERT A. C. SCOTT

The Question of Rest Periods

Editor, Overseers' Round-Table:

THE QUESTION of having definite rest periods, as applied to the textile industry, is a 50-50 proposition. On jobs calling for severe eye strain the plan may be beneficial to both employer and employe, but with modern facilities and conservative hours of labor in the mills, operatives should be able to work through on regular schedules.

Summary of Discussion on Placing Responsibility for Machinery Upkeep

Placing responsibility for machinery upkeep upon the overseer in charge of the department was favored by the majority of the contributions, the principal argument being that the overseer knew the machinery better and knew the work which the machine should do. The advantages of specialization in such matters as oiling were brought forward in several contributions, and it is evident that this plan works well where the right man is secured and where there is active cooperation. A thorough study of the problems presented in the individual mill would seem to offer an opportunity for improvement in methods of handling the subject.

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If machinery is idle during rest intervals the loss of production which results cannot be regained under normal conditions. I believe that frequent rest periods during the day have a tendency to slow up operations and would be of no great advantage with respect to the morale and efficiency of the employe.

JAMES C. MILNE

Editor, Overseers' Round-Table:

IN SOME industries there is no question about rest periods for the workers being very satisfactory. In the woolen mills, the average worker, by having his or her work caught up, does find time for rest periods, but what of the weavers, and spinners?

Take, for instance, the weave room of a 100 loom mill, running the full 48 hour week. Each weaver having a rest period of ten minutes out of every two hours, would be equivalent to eight and one third looms shut down for the entire week for rest periods alone. I cannot see where this lost production can be made up unless arrangements are made for another operator to run the looms while the regular operator is enjoying the rest period. Even then knowing weavers and weaving, I think that the loss would offset the gain. The lost production in the spinning room would work out on the same average of four hours' lost time per week for each operator.

W. G. TUER

Placing Responsibility for Machinery Upkeep and Repair

Editor, Overseers' Round-Table:

I BELIEVE that there is entirely too much controversy in most mills and too little cooperation when the question of responsibility for machinery upkeep arises. Most overseers are afraid that the machanical department is trying to take away some of their authority and many master mechanics endeavor to get all the responsibility they can to make it appear that their department is of greater importance. Both these views are narrow-minded. The only way to solve the problem is to approach it with an open mind and with no set ideas. In some departments it may work out that the overseer is the best one to look after the machinery and in another the mechanical department may be able to do the job more efficiently. After all, the main problem is to keep the machinery in good shape, not who shall have the title of doing it.

"MECHANIC"

NEWS about MEN

DR. W. C. HAMRICK, president of a number of mills at Gaffney, S. C., and a member of a standing committee on roads, bridges and ferries, has been appointed by GOV. JOHN G. RICHARDS to attend the annual convention of the United States Good Roads Association to be held in Oklahoma City, Okla., July 7 to 10.

SAMUEL TAIT has been re-elected head of the Vogue Silk Hosiery Co., Philadelphia, succeeding R. C. HUETTIG who has resigned. ERNEST TITHER has been elected secretary filling the post left vacant by F. T. HUETTIG.

D. D. LITTLE has been elected president of Florence Mills, Forest City, N. C., and also president of American Spinning Co. of Greenville, S. C., succeeding the late A. J. CUMNOCK, in each instance. Mr. Little also continues as treasurer of the Florence Mills. MORRIS HADLEY, of Murray, Aldrich & Webb, New York, was elected vice-president and director in both the Florence and the American Spinning Mills.

J. E. SIRRINE, president of J. E. Sirrine & Co., textile engineers and architects of Greenville, S. C., has returned from a trip to the Pacific Coast, by way of Panama Canal.

C. F. JAMES, president of the Elizabeth James Mills, Marion, N. C., has announced himself a Republican candidate for the State Senate.

W. J. BAILEY, president of the Clinton (S. C.) Cotton Mills and prominent banker, suffered injuries in an automobile accident. He will be confined to the hospital for some time with a broken hip-bone.

P. L. WORMELEY of Richmond, Va., has been appointed head of a new section in the Bureau of Standards which will handle the specifications for and the testing of all rubber, textiles, paper and leather purchased by the Federal Government, according to an announcement by GEORGE K. BURGESS, director of the Bureau. Mr. Wormeley was formerly chief of the Bureau of Standards rubber section.

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ALFRED WOLSTENHOLME, former head of Alfred Wolstenholme & Sons, Inc., Philadelphia, who died June 7, left an estate estimated at more than $300,000. Under the provisions of the will his widow, son and three daughters will receive the principal or income from their portion of the estate. The policy under which the business has been conducted will be followed by the present officers: Hollis Wolstenholme, president and treasurer; H. Sherwood Hicks, vice-president and sales manager, and N. E. Barndt, secretary.

CHARLES GEORGE BOSSONG, president of the Bossong Hosiery Mills, of Asheboro, N. C., and GLADYS JULIAN, of Salisbury, N. C., are to be married July 11.

ABBOTT P. SMITH, president of the New Bedford, Mass., Textile School for the last eight years, has tendered his resignation. He retains his position on the board of trustees, of which he has been a member for 27 years. JAMES O. THOMPSON, chairman of the board of trustees, has been named acting president until a successor to Mr. Smith has been appointed.

Alan MacEwan

Flint Garrison, Director General of Wholesale Dry Goods Institute who spoke before the Toronto Convention of the National Knitted Outerwear Association on the classification of manufacturers now being undertaken by his organization. The convention is reported on pages 34 and 35

E. E. HORNER, president of Horner-Bros. Woolen Mills, Eaton Rapids, Mich., and MRS. HORNER sailed on the "Europa" for a two months' combined business and pleasure trip to England, Scotland, France, Germany and Italy.

JOE MEYER is now president, and HOWARD MEYER, treasurer of the D. and W. Hosiery Mills, at Meridian, Miss.

JOHN F. KIRK, who has been associated with the Nashawena Mills, New Bedford, Mass., for a number of years, has been appointed manufacturing agent. JOHN L. BURTON, former agent, will continue to serve the company in an advisory capacity.

ROBERT W. BOYS, superintendent of cotton division of the Farr Alpaca Co., Holyoke, Mass., was elected district governor of the Lions International 33rd District at the convention held in Pittsfield, Mass., June 17. Mr. Boys, quite active in civic affairs, is also president of the Holyoke Council of Boy Scouts.

JOHN E. PAIGE, former treasurer of the Central Mills Co., Southbridge, Mass., MRS. PAIGE, and his mother, MRS. CALVIN D. PAIGE, widow of the former president of the same company, have given $5,000 to the proposed Harrington Memorial Hospital, Southbridge, in memory of CALVIN D. PAIGE.

EMSLIE NICHOLSON, treasurer of the Monarch Mills, Union, S. C., has given a modern brick building, completely furnished, to the economics class of the Monarch graded schools.

RUDOLPH C. DICK, of Lockwood Greene Engineers, Inc., has been elected vice-president and treasurer of Louisville (Ky.) Cotton Mills. Mr. Dick was designer for Pepperell Mfg. Co. before entering the employ of the engineering company.

A. CULBERSON, who has been vice-president and general manager of C. R. Miller Mfg. Co., and its successors, the Texas Textile Mills, Inc., Dallas, Texas, for the last seven years, has tendered his resignation, effective July 1.

W. C. VEREEN, vice-president and treasurer of the Moultrie (Ga.) Cotton Mills, was elected president of the Moultrie Country Club, at the recent annual meeting of that organization.

H. L. SHUTTLEWORTH, vice-president of the Mohawk Carpet Mills, Amsterdam, N. Y., has been re-elected a director of the Y.M.C.A. in that city.

THOS. H. BALL, Philadelphia, and his family, are planning to leave for their summer home in Nantucket within the next few days and will not return until the early autumn.

PETER J. GOLDNER has been elected secretary of Russell Mfg. Co., Middletown, Conn., succeeding the late HENRY W. HUBBARD.

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CORNELIUS F. MCLAREN, former treasurer of John McLaren Woolen Mills, Inc., Glenham, N. Y., has been made manager of the Cross Streams Inn, at Hopewell Junction, N. Y.

F. H. CHAMBERLAIN, cotton mill machinery dealer, Lincolnton, N. C., is attending the Rotary International Convention at Chicago. Mr. Chamberlain is serving on the vocational service committee under the classification of machinery and equipment and is also an assistant sergeant-at-arms.

RALPH K. HUBBARD, treasurer and manager of the Packard Mills, Inc., Webster, Mass., is representing the Rotary Club of Webster at the International convention in Chicago this week.

CHARLES A. TABOR, former agent for the Thorndike (Mass.) Co., and MRS. TABOR, are on an automobile trip to Chicago where the former will attend the Rotary convention, representing the Palmer, Mass., club.

VICTOR M. MONTGOMERY, JR., who was recently appointed assistant secretary-treasurer of the Gainesville (Ga.) Cotton Mills, has moved to Gainesville from Spartanburg, S. C., where he has been studying mill accounting in the auditing department of L. C. Dodge.

ROBERT K. PATTERSON, son of A. L. PATTERSON, secretary and treasurer of Lillian Knitting Mills, Albemarle, N. C., was married June 11, to MARY KATHERINE GREENLEE, of Albemarle. Mr. Patterson is associated with his father in the knitting mill management.

ARTHUR H. LOWE, Fitchburg, Mass., representative of the Amoskeag Mfg. Co., Manchester, N. H., presented the diplomas

at the commencement exercises at the Fitchburg State Normal School on June 16.

WALTER D. LARZELERE, Larzelere & Co., Philadelphia, sailed for England June 18. He plans to be away for approximately six weeks, visiting points of interest in England and on the Continent.

ALFRED HOFMANN, president of Alfred Hofmann, Inc., West New York, N. J., sails July 1 on the "Columbus" to be absent for about two months. Mr. Hofmann will visit the plant of Schubert & Salzer, Germany, large manufacturers of full-fashioned machines, and for whom Alfred Hofmann, Inc., are the sole selling agents in United States and Canada.

C. E. WINEBERG, secretary, Alfred Hofmann, Inc., West New York, N. J., returned June 16 from a two months' trip to Europe.

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COL. WILLIAM A. MCCAIN, contract officer at the Philadelphia Quartermaster Depot, has been promoted to U. S. Army Industrial College, Washington, D. C. He had been contract officer at Philadelphia depot for two years, supervising purchase of large quantities of textiles.

MRS. LOUISE HUSTON, director of the educational service bureau of the American Bemberg Corp., is in charge of the corporation's exhibit at the National Home Economics Convention at Denver, Colo. June 23-28.

FERDINAND K. and LOUIS R. THUN, aged 22, twin sons of MR. and MRS. FERDINAND THUN, former president of Berkshire Knitting Mills, Wyomissing, Pa., were graduated with honors at Williams College, Williamstown, Mass. They will take positions in Wyomissing textile plants.

HUBERT JORDAN WATSON, assistant treasurer and assistant general manager of the Watson-Williams Mfg. Co., Leicester, Mass., and ELIZABETH ERIKSSON, Worcester, Mass., were married in the latter city on June 25.

ROWLAND E. BAIRD, advertising manager for the U. S. Bobbin & Shuttle Co., Manchester, N. H., and RUTH HARRIET MCMASTER, Southbridge, Mass., were married at the home of the bride's mother in the latter town on June 14.

C. VERNON INETT, dye master for the M. J. Whittall Associates, Ltd., Worcester, Mass., and ELLIOT A. SANTON, a supervisor for the Crompton & Knowles Loom Works, Worcester, Mass., are to speak before the music conference at the annual convention of Kiwanis clubs at Atlantic City, N. J., on June 30.

MRS. HELEN WASHBURN, who has been stylist on the rayon underwear and pajama line produced by the Ace Knitted Fabric Mills, Columbus, Ga., has resigned. Before coming with the Ace company, Mrs. Washburn was connected with the Tubize Artificial Silk Co., as stylist.

J. A. PERKINS, agent of the Harmony Mills, Cohoes, N. Y., delivered the principal address and presented diplomas at the annual graduation exercises connected with the domestic welfare course at the plant.

SIDNEY C. MCHENRY, former agent for the Otis Co., Ware, Mass., has started in business for himself in West Brookfield, Mass., manufacturing silk underwear.

CHESTER W. FROUDE has been appointed assistant manager of the London plant of Jantzen Knitting Mills, having formerly been assistant to MITCHELL HEINEMAN, sales manager. He sailed from New York July 18. Mr. Froude is experienced in foreign trade affairs, having previously been department manager for Wilcox Hayes Co., importers and exporters, Portland, Ore.

GEORGE R. LEWIS, for several years manager of Department W of the Union Mills, at Catskill, N. Y., has been transferred temporarily to Herkimer, N. Y., to supervise special work at the company's plant there.

O. E. TROSPER is now superintendent of the O'Cedar Corp., Covington, Tenn., succeeding W. L. FERGUSON.

J. D. HUSBAND, assistant sales manager of the Mohawk Carpet Mills, Amsterdam, N. Y., is now making his headquarters in that city following transfer from New York City.

A. D. STOLZ, who for a number of years was office manager of Lengel-Fencil Co., Reading, Pa., will soon move to Anniston, Ala., where he expects to engage in hosiery manufacture.

WILLIAM M. MCCANN, former chemist for the Slater Co., Inc., Webster, Mass., now of Ware Shoals, S. C., and ELIZABETH LOVE, Webster, were married in the latter town on June 14.

E. P. DEAL is now superintendent of the Hickory (N. C.) Weavers, Inc.

H. J. FENTON has accepted the superintendency of the Ideal Hosiery Mills, Maryville, Tenn., succeeding G. F. Carroll.

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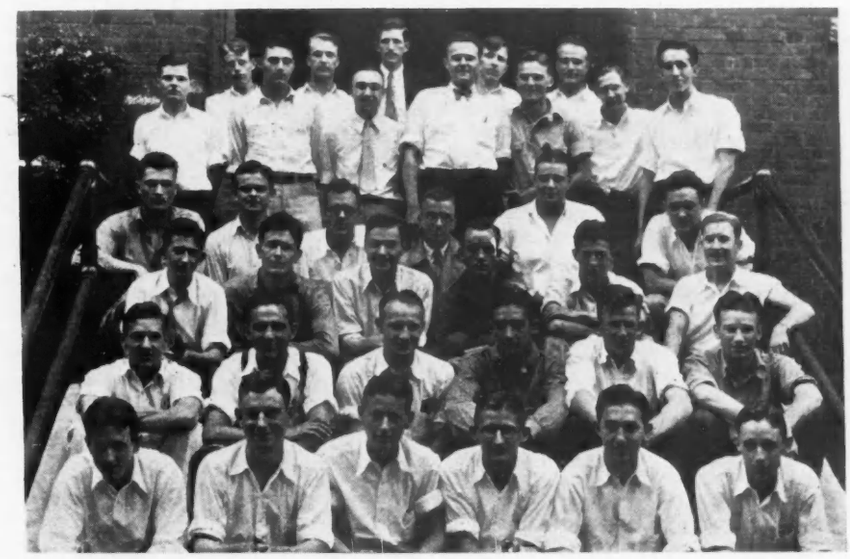
DAN JOHNSON has assumed his new duties as superintendent of the Ingram Mfg. Co., Nashville, Tenn.

HARRY E. HOUGHTON, for seven years superintendent of the Dartmouth Mfg. Co., New Bedford, Mass., is reported to have tendered his resignation, effective the end of June.

H. KING, JR., has accepted the superintendency of the El Paso (Texas) Cotton Mills Co.

CHARLES E. LALINE has resigned as superintendent of the Delta Land Cotton Mills, West Helena, Ark.



Class of 1930—Textile Graduates from Georgia School of Technology, Atlanta, Ga.—Beginning at the top: First row: (left to right) G. G. Toole, H. B. Brooks, W. L. Carmichael (M.S. in T.E.), T. J. Culpepper, J. T. Kinnett. Second row: J. J. Milam, R. U. Harper, R. W. Cannon, E. M. Darden, B. D. Snow, G. A. Artope, J. W. Arnall. Third row: S. A. McCosh, R. W. Schrimshire, W. N. Dulaney, H. D. Sargent, G. S. Obear, L. R. Waddey. Fourth row: J. M. Summerour, G. H. Robinson, R. M. Gibbons, E. E. Camp, J. A. Byars, J. W. Merry. Fifth row: E. R. Blount, J. R. Thompson, H. A. Mitchell, W. E. Snodgrass, D. S. Waldrep, H. R. Brock. Bottom row: T. A. Davis, B. D. Pritchett, A. S. Boyce, G. D. Coffee, R. L. Heard, J. W. Harvey.

NEWS about MILLS

Cotton

Dwight Mfg. Co.'s (Alabama City, Ala.) plant is being remodeled and renovated by Fiske-Carter Construction Co. The contractors state that it will require about six months to complete the work.

Perfect Spinning Mills, Inc., Putnam, Conn., have been chartered with a capital of $50,000, and will begin business as a corporation with $20,000 paid in. The incorporators are: Harry Hak, 385 Dexter St., Central Falls, R. I.; Evelyn Kaminsky, and Sol Hak.

***Ninigret Mills,** Jewett City, Conn., which close indefinitely July 1, have offered employes free use of houses owned by the company.

Powdrell & Alexander, Inc., Killingly, Conn., have adopted a three-day week schedule in some of their plants and also made a temporary reduction in the number of employes.

Whittier Mills Co., at Chattahoochie, Ga., and **Manchester (Ga.) Cotton Mills** have recently had additional humidifiers installed in their plants by the Bahnson Co., of Winston-Salem, N. C.

Habersham (Ga.) Mills, have completed installation of 6,500 spindles and 48 cards in their new concrete building.

Capps Mfg. Co., Toccoa, Ga., manufacturer of yarns, which was formerly owned by T. A. Capps, who sold it to a syndicate several years ago, with E. P. Simpson as president and treasurer, has recently been purchased back by Mr. Capps. Mr. Simpson has resigned and turned the mills over to Mr. Capps, it is said.

Pepperell Mfg. Co., Biddeford, Me., has sold water power rights and a cotton mill to the Cumberland County Power & Light Co. The Pepperell company has contracted to buy power from the purchaser for the next ten years, averaging 12,000 hp. yearly. The deal is subject to the approval of the Public Utilities Commission.

Merrimack Mfg. Co., Lowell, Mass., is said to be arranging for early increase in production at its local mill, and will make additions in the working force. Orders have been received to insure capacity for a number of weeks to come.

Palmer Mill of the **Otis Co.,** Three Rivers, Mass., shut down on June 20 until June 30 for vacations.

Thorndike Co., West Warren, Mass., in liquidation, is disposing of some of its equipment at private sale. Movement of machinery to mills of the Otis Co., in Ware and Three Rivers, Mass., is in progress.

New Bedford, Mass.—Four New Bedford fine cotton goods mills, the **Butler, Grinnell, Pierce Bros.** and **Pemaquid,** which were closed all last week, resumed activities June 23, but on a curtailed schedule, in keeping with the policy being practiced by practically every mill in New Bedford. Production at the present time is estimated at 60 to 65% of normal at most of the plants. New Bedford manufacturers now are running the plants only to take care of orders on hand, most of the mills operating on four days a week. Indications here point to further curtailment unless there is a decided improvement in the textile industry. Shut downs of other plants for at least a week are contemplated in the near future, possibly the weeks of June 30 and July 14.

***Rountree Cotton Mill Inc.,** Magnolia, Miss., was sold at auction last week to satisfy mortgage of Strauss Bros. Investment Co. of $105,000. It was bid in by E. B. Kitzinger, trustee, for $17,000, subject to remaining unpaid balance of $105,000. The mill has been idle more than a year. New owners will probably reopen at once.

Dilling Cotton Mills, Kings Mountain, N. C., have recently purchased 74 new silk looms. The plant now is equipped with 122 52½-inch looms and 150 48½-inch looms.

***Boger & Crawford Spinning Mills,** Lincolnton, N. C., announced that the 5,000 mule spindles, which were recently purchased have all been installed and are in operation.

Graniteville (S. C.) Mfg. Co., has purchased additional Breton Minerol Process oil-spraying equipment from Borne Scrymser Co., New York City.

***York Wilson Mills,** successors to the **Red River Cotton Mills,** of York County, S. C., have made petition to the South Carolina Secretary of State for a charter. The Red River plant and properties were recently sold at public auction, following a receivership of several months. Following are the incorporators of the new company: Alex Long, York Wilson and F. H. Heyward, all of York County. Mr. Wilson was trustee for the Red River mills while in bankruptcy, and was former president of the plant.

Wool

Bigelow-Sanford Carpet Co., Clinton, Mass., will have its annual two weeks' vacation period from June 28 to July 14. During that time many looms will be running on special work in the Wilton weaving department.

Ohio Carpet Co., West Warren, Mass., which had been operating day and night for several years, has started on a curtailed schedule for an indefinite period.

Worcester (Mass.) Woolen Mill Co., has sold its local plant, consisting of a group of 11 buildings, to the Standard Foundry Co., an interest of the Crompton & Knowles Loom Works, Worcester, which will occupy for expansion in its business.

New Jersey Worsted Mills, Garfield, N. J. Application for the appointment of a receiver for this company has been denied by the Court of Chancery, and operations will continue as heretofore.

John McLaren Woolen Mills, Inc., Glenham, N. Y. A petition in bankruptcy has been filed against this company by a number of creditors.

***S. B. & B. W. Fleisher, Inc.,** Philadelphia, Pa. John Fisler, well known worsted yarn spinner and former head of Manufacturers' Club, and Arthur A. Fleisher, were appointed receivers in equity for this worsted yarn spinning firm, which discontinued spinning May 17. Appointment was made by U. S. District Court after counsel for company had agreed to a receivership. There are $1,311,500 bonds outstanding and action was taken as result of suit brought by one of the bondholders. Receivers will make a survey of the affairs of the Fleisher firm and report to court before taking any action.

Atlantic Mills of R. I., Providence, R. I., are arranging for early increase in production and will adopt a two-shift day, giving employment to approximately 200 operatives who were laid off a number of weeks ago. The plant has been running on a single shift basis for some time past.

Little Woolen Co., North Montpelier, Vt., is said to be planning rebuilding of portion of mill recently destroyed by fire with loss reported at close to $20,000.

Knit

Jackson, Mich.—State Prison Department, Lansing, is planning expansion in textile mill at local institution, including installation of knitting machines, looms for production of blankets and other equipment to give employment to about 500 persons. John W. Miner is resident commissioner.

***Knit Goods Corp. of America** has selected site at Corinth, Miss., for a full-fashioned hosiery mill. The plant will contain about 80 machines. Plans are being prepared by J. E. Sirrine & Co., Greenville, S. C.

Warner Knitting Co., Clayton, N. Y., has increased operations and is now running overtime in some departments.

Carbondale Mills, Inc., Brooklyn, N. Y., represented by Edwin C. Morsch, 1008 Gates Ave., Brooklyn, an attorney, have been formed with a capital of $100,000, to operate a local knitting mill. Names of principal officials have not been announced.

Utica Knitting Co., Oriskany Falls, N. Y., has increased operations and is operating near capacity.

*Indicates previous mention of project.

Utica, N. Y., Industrial Advancement Corp. reports knitting mills in the city operating at 83% capacity with 96% of workers.

Utica (N. Y.) Rayon Corp. has taken on additional workers and is now running with overtime shift.

Ford Mfg. Co., Waterford, N. Y., suspended operations for a month on July 21 in order to make plant improvements.

Nebel Knitting Co., Charlotte, N. C., which has been manufacturing service-weight hose, has just put on the market its first chiffon hose, of which 1,000 dozen pairs will be produced each week, according to William Nebel, president. The company now has 13 full-fashioned machines making the chiffon hose.

*__Lincoln Knitting Co.,__ Merrill, Wis., has consolidated with the **Merrill Knitting Co.** and taken over the Merrill plant. The business will be conducted as the **Lincoln Knitting Co.,** with Paul W. Leopold as president and general manager. The report regarding Harry Krom as president is in error.

Bear Brand Hosiery Co., Waupun, Wis., is installing machinery for the manufacture of seamless dull-finished hosiery, costing approximately $20,000, according to J. R. Donovan, superintendent of the plant.

Silk

Putnam, Conn. Machinery for the proposed new silk throwing plant to be operated in one of the former Manhasset mills is arriving every week and operations are expected to get under way within a few weeks.

Dutchess Silk Mills, Inc., Paterson, N. J., recently organized with a capital of $50,000, to operate a local broad silk mill, will be represented by Harry Joelson, 152 Market St., Paterson, an attorney. The principal incorporators are Louis and Alexander Wishbow.

Lehighton (Pa.) Silk Co., Inc., has been organized by Louis Zaleschitz, East Stroudsburg, Pa., and associates, with capital of $5,000, to operate a local mill. Mr. Zaleschitz will be treasurer and representative. Charles Somner, East Stroudsburg, will be an official of the new company.

Valley Falls Hill Silk Mill, Valley Falls, R. I., broad silk and silk novelties, 36 box looms, is now manufacturing rayon crepes.

Rayon

New Bedford (Mass.) Rayon Co. is planning to install 14 additional spinning frames, bringing the total to 54, which will provide work for 100 more workers and increase production by 35%. Increase in equipment is being made in preference to the payment of dividends, so that when volume of business is increased, the plant will be in a position to take care of the expected demand.

A. M. Johnson Rayon Mills Inc., Burlington, N. C., have changed name to the **Carolina Rayon Mills,** under the reorganization plan of the company. Frederick C. Neiderhauser, is handling the details of the new organization. Both American and foreign capital has become interested in the company and it is expected to resume operations in October.

Industrial Rayon Corp., Covington, Va. The 14 brick and tile houses for the officials of the company, under construction on a site near the plant, will be ready for occupancy early in August, it is understood. The houses will contain from six to seven rooms, baths, hardwood floors, and hot water heating systems.

*Indicates previous mention of project.

Finishing

Harodite Finishing Co., Inc., Taunton, Mass., recently organized by Nathan H. Friedman, 20 Fayette Place, Taunton, and associates, with capital of 5,000 shares of stock, no par value, plans operation of a local textile finishing mill. Mr. Friedman will be treasurer; Dewey D. Stone, Taunton, is president.

Utica Willowvale Bleachery, Chadwicks, N. Y., is now running near capacity with a normal working force.

Union Bleachery, Greenville, S. C., recently installed a Westinghouse steam turbine.

Blackstone Dye Works, Inc., Woonsocket, R. I., have been organized with a capital of 500 shares of stock, by Ethelbert P. Herbert, Woonsocket, and associates, to operate a local dye works. Lucien Jarret, Woonsocket, is also interested in the new company.

Miscellaneous

Supreme Felt & Bedding Co., St. Louis, Mo., has been formed by David Keiner, 1216 Walton St., St. Louis, and associates, with capital of $20,000, to operate a local mill at 218 South 17th St.

Arena Twine & Cordage Mfg. Co., Inc., Boonton, N. J. Frank E. Scerbo, Morristown, N. J., has been appointed receiver for this company. The mill was closed down about a year ago through lack of capital. Stock liabilities of the company are said to total $380,000, and other obligations, $55,176. Assets are stated at $212,040.

Service Mattress Co., Elizabeth, N. J., has been formed with a capital of 1,000 shares of stock, no par value, to take over and expand the company of same name with mill at 35 Smith St. The principal incorporators are Clarence E. and Edward Mackie.

Miles Linen Co., Inc., Salem, Ore., on July 1, will begin construction of a fireproof building 30x40 ft. of mill construction type, to be used for the sorting and ribbing rooms.

United States Asbestos Co., Manheim, Pa., a division of **Raybestos-Manhattan, Inc.,** Bridgeport, Conn., is running on a full capacity schedule, giving employment to regular working force in all departments.

Union Wadding Co., Pawtucket, R. I., manufacturer of white and colored batting, has filed plans for a new bleaching unit. Plans call for a one-story brick building 122x133 ft., to cost $50,000.

Textile Patents

CIRCULAR spring-beard-needle knitting machines, Striping attachment for. 1,763,378. John Tait, William Tait, and Francis Tait, Jr., Philadelphia, Pa. Assigned to Howard Hosiery Co., Philadelphia, Pa.

COP holder. 1,762,261. Ernest A. De Wolf, Cranston, R. I. Assigned to Universal Winding Co., Boston, Mass.

COP holder. 1,762,516. Anthony Hlavac, Chicago, Ill. Assigned to Eber J. Hubbard, Berwyn, Ill.

COTTON harvester. 1,763,607. Julian Edgar Watkins, Navasota, Tex.

COTTON picker. 1,763,480. Thomas E. Rice, Des Moines, Iowa.

DRAWING-in-filling preventer. 1,763,456. Theophile Caux, Lawrence, Mass.

FABRIC. 1,763,074. Schuyler J. Taylor, Portland, Conn. Assigned to the Russell Mfg. Co., Middletown, Conn.

FABRIC, Resilient. 1,762,389. Richard C. Fagan, Middletown, Conn. Assigned to Russell Mfg. Co., Middletown, Conn.

GILL-box fallers, Device for cleaning. 1,762,853. Thomas Bredbury, Andover, Mass. Assigned to Patent Protection Corp., Lowell, Mass.

KNITTING machines, Tension-bar mechanism for. 1,763,280. Rudolf Ullrich, Wyomissing, Pa. Assigned to Textile Machine Works, Wyomissing, Pa.

KNITTING machines, Tucking attachment for. 1,763,439. Albert E. Page, Brooklyn, N. Y. Assigned to Scott & Williams, Inc., New York.

LOOM. 1,762,717. Eugene Herring, New Orleans, La. Assigned to Elm City Cotton Mills, Lagrange, Ga.

LOOM. 1,763,613. Harry A. Davis, Hopedale, Mass. Assigned to Draper Corp., Hopedale, Mass.

LOOM, Combined power and hand. 1,763,111. Robert E. Walliser, Chicago, Ill.

LOOMS, Beam lock for. 1,765,322. Carl D. Brown, Hopedale, Mass. Assigned to Draper Corp., Hopedale, Mass.

LOOMS, Harness shaft for. 1,764,917. William E. Wall, Lancaster, S. C.

LOOM shuttle, Automatically - threading. 1,765,327. Clare H. Draper, Hopedale, Mass. Assigned to Draper Corp., Hopedale, Mass.

LOOMS, Shuttle guide for. 1,765,266. James E. Harding, New Brunswick, N. J. Assigned to Gulbenkian Seamless Rug Co., New Brunswick, N. J.

LOOMS, Thread parting mechanism for. 1,765,324. Harry A. Davis, Hopedale, Mass. Assigned to Draper Corp., Hopedale, Mass.

MACHINE for cleaning, improving and softening wool and other textile materials. 1,764,892. Fermin Rocamora, Sabadell, Spain.

SPINNING and twisting machine. 1,765,236. Johann Jacob Keyser, Aarau, Switzerland.

SPINNING material, Extraction of foreign bodies from. 1,764,680. Emil Gminder, Reutlingen, Germany.

STAPLE fibers, Apparatus for the production of. 1,764,202. Henry Dreyfus, London, England.

STAPLE or fibrous material for spinning. Process and apparatus for preparing. 1,764,074. Emil Gminder, Reutlingen, Germany.

TEXTILE crayon process. 1,764,006. Lawrence Harvey Cook, Menlo Park, Calif. Assigned to John T. Lemos, Palo Alto, Calif.

TEXTILE product, Method and means for making a. 1,764,575. Walter Nicolet, Leipzig, Germany.

TEXTILE rovings, Drawing mechanism for. 1,765,127. Fernando Casablancas, Sabadell, Spain.

WARP stop motion. 1,764,879. Joseph G. Menzer and Harry E. Khoury, New Bedford, Mass. Assigned to Khoury Warp Stop Motion Inc., New Bedford, Mass.

WEAVING, Art of. 1,764,574. Walter Nicolet, Leipzig, Germany.

WEAVING, Art of. 1,764,576. Walter Nicolet, Leipzig, Germany.

WEAVING fabrics, Means for. 1,764,577. Walter Nicolet, Leipzig, Germany.

WEAVING striped cloth, Mechanism for. 1,765,339. David C. Jones, Chesnee, S. C. Assigned to Draper Corp., Hopedale, Mass.

WINDING frame for yarns or threads. 1,763,753. Thomas Alexander Boyd, and Harold Arthur Boyd, Shettleston, near Glasgow, Scotland.

YARN carrier. 1,763,861. Burt A. Peterson, Rockford, Ill. Assigned to Barber-Colman Corp., Rockford, Ill.

Questions and Answers

We undertake to answer, free of charge, to the best of our ability, questions pertaining to textile matters received from any regular subscriber to TEXTILE WORLD. We do not undertake, however, routine analysis of yarn or fabric, or investigation involving unusual expense.

Inquiries should give the fullest information and data possible. In the case of damage to material, a sample should be sent. All inquiries must be accompanied by the name of the person inquiring, not for publication, but as evidence of good faith. The identity of those seeking information on technical subjects will not be disclosed.

Letters expressing opinions or voicing criticism are cordially invited. These will be signed by the correspondent's name unless the letter itself contains a request that the name be withheld.—EDITOR.

Removing Oil from Cuprammonium Rayon

Technical Editor:

We are enclosing herewith a skein of cuprammonium rayon yarn. Will you kindly advise us whether the oil contained in this yarn can be removed without impairing the tensile strength of the rayon and without creating fuzziness or broken filaments? If it is possible to do this, will you kindly outline the method that should be employed? We are of the opinion that the oil is neatsfoot oil. *(7211)*

We are returning to you the skein of cuprammonium rayon yarn, which we have scoured without impairing the tensile strength and without creating any fuzz or broken filaments. You may be inclined at first to think that we have made the yarn slightly fuzzy. This is not the case, as the yarn when received by us was very loosely twisted and was fuzzy; it had so much oil on it, however, that the filaments were stuck together.

You stated that you believed that it had neatsfoot oil on it, but you were not quite sure. The oil was evidently part neatsfoot oil or a similar animal oil, but probably had some other oil similar to rapeseed oil blended with it, as the oil had become oxidized and was quite rancid.

We feared that we might have a harder time scouring out the oil than we did; and therefore we played on the safe side and used plently of scouring material. We feel that we used twice as much as necessary, but the agents that we used are so mild that they have not injured the yarn in any way. We actually used a bath composed of 8% special soap, 3% solvent oil, and 4% trisodium phosphate. The soap is a concentrated powdered soap, containing less than 10% moisture and no free alkali; it is made from all vegetable fats and contains the natural albumins of the seeds. This gives the product colloidal detergent properties in addition to those of a true soap. The solvent oil is a penetrating agent, which contains cresylic acid in its most effective form. This aids in softening and emulsifying the oxidized portion of the oil in the yarn. The trisodium phosphate is, of course, a mild alkali, which aids in the emulsification of the oil and assists the soap in rinsing it free from the goods.

We placed one-half the quantity of water in a beaker and brought it to a boil. We added the soap powder, and when this was dissolved added the trisodium phosphate. We then added the balance of the water and next the solvent oil. This brought the temperature of the bath to 150°F. We entered the skein and worked it in this bath up and down with frequent turnings for one hour. We next gave the skein three warm-water rinses and one cold rinse. The skein was then hydro-extracted and hung up to dry. When the rayon was dry, we shook it out. We are returning it to you. You will note that it is clean, white, and has an excellent handle.

Scouring with the above formula, we noted excessive suds; this convinces us that if we had more of these skeins to scour, we could reduce the formula about one-half and still obtain satisfactory results. We are sure that a solvent-oil product is necessary with yarns containing oil that has become oxidized or has turned rancid due to long exposure to light and air.

◆

Valves for Vacuum Dyeing Machine

Technical Editor:

We have a circulating dyeing system. Lately we have been troubled with dye leaking from tanks that hold the standing bath. Examination of the valves shows that valve seats and gates have become corroded due to chemical action of the dye liquor. We are using sulfur dyes. We wish to know whether there are any valves manufactured that will resist this destructive action. *(7189)*

Valves used with sulfur dye liquors should contain no brass, bronze, or copper, as these metals and alloys are attacked by sodium sulfide. The valves should be of the all-iron type. Gate valves are usually employed. All of the larger valve manufacturers make such valves, up to the 2-in. size at least. On the larger sizes cocks might be used if there is to be no throttling. An asbestos-packed plug cock is not advisable because of the action of the liquor on the asbestos. All-iron valves show but very little corrosion and are reasonably tight.

◆

Computing Waste in Hosiery Manufacturing

Technical Editor:

Will you kindly advise us as to the correct method for computing the percentage of waste and seconds in the hosiery industry; also which method is most prevalent in the industry. We have had considerable discussion in our company as to whether the flaws should be based on the total quantity of yarn put into production or on the first-class production only.

The percentages arrived at are to be used for all departments of the business, including the superintendent's office and the cost department. Consequently the basis used must be the proper one to take care of all departments. *(7169)*

About every hosiery mill has its own pet, and oftentimes questionable, method of figuring cost of waste and seconds. We believe that all imperfect hosiery should

be charged against first-class production regardless of cause, and should not be based on the total quantity of yarn put into production. All hosiery waste, we believe, should be based on the total quantity of first-class production, rather than on the total quantity of yarn used.

In all hosiery mills there are different types and qualities of necessary waste, such as looping and seaming clips, looping and topping ravelings, and thread waste from stripping cones or bobbins. This waste might be based against the total quantity of yarn put into production, but even here we would recommend that the necessary waste be charged against the manufactoring cost of the hose.

It is of course understood that satisfactory standards should be established both for necessary and unnecessary waste and seconds. These standards should then be set up as a manufacturing basis to be lived up to and improved on if possible. When daily reports show excessive conditions, thorough investigation and explanation should be in order.

A careful follow-up system for checking waste and seconds will place responsibility on all of the different departments, such as knitting, looping and seaming, and dyeing and finishing. Such a system is certain to reduce waste and seconds to a satisfactory minimum if adopted and carefully maintained.

◆

Speed of Cotton Roving Frames

Technical Editor:

Is the speed of a roving frame limited only by the ability of the flyer to withstand spreading? (7240)

Yes, except on coarse roving frames handling long-stapled cottons, in which case the slight twist required would mean an excessively high front-roll speed if the flyer were run at maximum rate. This would cause poor drawing.

◆

Streaks in Flat Crepe

Technical Editor:

We enclose several half-yard cuts of an all-silk flat crepe, of the following construction: Width, 43½ in.; reed, 50/3/2 of 20/22 white Japan Grand Double Extra; filling, 76 picks of three-thread 13/15 Japan Crack Double Extra, 60/65 turns. You will observe distinct warp streakedness. We would appreciate your advice as to the reason therefor; also your suggestion as to how to avoid such a condition. (7191)

A careful examination in an ordinary light does not reveal any pronounced streakings, due probably to the fact that the goods are folded and have had a change to close up. You should bear in mind that the above construction is a cheap cloth; and that this construction, particularly when made with a 50 reed, is liable to show this slight streaky appearance in the warp.

We do not consider your samples any worse than the average cloth of similar construction to be found around the market. We should call them about average in quality and construction. However, we might suggest that to some extent the trouble can be overcome by using very high-grade warp, not under 85% evenness on seriplane, and by watching the warp carefully to avoid slackness and section marks, using plenty of beaming

THOUSANDS of inquiries are handled annually by the Technical Editors. In order that as many readers as possible may benefit from this service, we select problems of general interest for publication each week.

paper in making the warps. The reed should be very carefully selected, a fine dent wire being used between. Care should be taken to avoid strained reeds and crammed dents. Besides these suggestions, there is very little that we can offer.

It will be found that, after the goods lie in stock awhile, they seem to look better, as they have an opportunity to close up. The inquirer should remember that he is in a particularly critical market on staple merchandise, whereas under ordinary conditions these goods would pass for sale without any criticism from the consumer.

We shall not suggest any other construction for a higher quality, as we realize that the construction mentioned is a standard construction today and is being made by a great many different manufacturers. Of course the cloth would be slightly improved by weaving this in a 75/2/2, which was originally done, but the extra labor cost and trouble in weaving are very serious items.

◆

Lunometer

Technical Editor:

In the June 14 issue of TEXTILE WORLD *there appeared a description of an improved Lunometer for determining the number of courses per inch in knit goods. Will you kindly advise us whether this instrument is also suitable for measuring picks per inch of woven fabrics? (7239)*

The Lunometer is suitable for measuring courses or picks per inch of both knit goods and woven fabrics having a sufficiently visible structure. The instrument described in our June 14 issue has a range of 25 to 60 picks or courses per inch; other models are available in ranges from 50 to 120 and from 100 to 240 picks per inch.

◆

Bowing of Chenille Rugs

Technical Editor:

We make a reversible wool chenille rug, using 12/5 chain warp, and are having difficulty with the rugs bowing. The enclosed samples give you some idea of what we mean. The larger the rug, the more noticeable the bowing. If you have any information which will help us with our difficulty, we would greatly appreciate it. (7210)

A rug of this type is woven on various kinds of looms, but the principle may be applied to any. The most important thing to make sure of in the weaving of a rug of this character is that the first four or five shots

woven are straight across the loom. No trouble should be had if the threads used to hold the fur together all have the same tension. Care should be taken that the shots of fur to follow are all perfectly in line with the first ones set. As there is no backing to give a firm edge and very little weight to resist a slight unevenness of tension, bowing is very likely to occur unless this precaution is heeded.

After the first part of the rug has been set, a ruler should be used after, say, six more inches have been added; and, if the last shot of fur does not measure the same across the width of the carpet, the tension may be relieved where the bowing occurs. A great deal depends upon the weavers and the care that they take in watching the loom and the conditions referred to. We believe that if the proper attention is given to these conditions, the bowing will be overcome.

◆

Cotton Jacquard Blankets vs. Wool

Technical Editor:

Can you give us any information as to why there seems to be a great volume of cotton blankets on the market which are made on jacquard looms, and so few wool blankets made on this kind of loom? Is it relatively more difficult to weave a wool jacquard blanket than a cotton one? (7180)

It is our impression that the reason for a greater volume of cotton blankets on the market is due largely to the difference in price between cotton and wool fabrics of this type. It is little more difficult to weave an all-wool blanket on a jacquard loom than a cotton blanket. Most cotton blankets are manufactured in light shades or white; and in order to produce these colorings in wool it would be necessary to use a selected stock free from black fibers. This would make the raw material quite expensive. For woolen blankets to be styled as attractively as cotton ones, they would have to be sold at a rather high price, and the demand for them would therefore be relatively small.

◆

Napped Fabric

Technical Editor:

I am enclosing two pieces of napped green cloth and will appreciate your advising me how to produce a nap and finish identical to that which you will note on the smaller sample. The large sample is made by napping and shearing. I am not able to make the nap as smooth and felted as the small piece. I have tried glues and gums in the mangle just before drying, but evidently I am not using the correct formula. (7187)

The solution to your problem in duplicating the napped finish of the small sample of green is not to be found in the use of finishes, such as gums and glues. In fact you should keep these products away from this kind of a fabric.

The larger sample appears to have been made on a single-acting napper. If it was run on a double-acting napper, the adjustment of the two rolls was not giving the same speed. To run this kind of goods we recommend a 36-roll napper having the cone speed adjusted so that the speed of one roll does not predominate over the other. The wire should be a 30-34 constructed 6-3. The goods should be given three or four runs with not too much tension. The cloth should then be removed from the napper and cropped level on a shear. Following this it should be run on a 24 felter napper to fill it. This will give the desired feel, cover, and feit.

If there is no felt napper available, we believe you could get the desired results on a 36-roll napper by taking the belt off and running the cloth through with practically no tension. In other words, the renapping after shearing or cropping is done in the neutral position or with little or no tension.

◆

Cotton Webbing Uneven

Technical Editor:

We are enclosing two pieces of webbing showing unevenness in color. You will note the edges on one piece are quite light, while there is unevenness more or less throughout the face on the other piece. We are wondering if you could suggest what may be causing this. This webbing is woven from bleached yarns, bleached by the chlorine method in kiers, and is tinted in the finishing solution.

The finishing solution that we are using consists of 20½ lb. gum arabic and 10 lb. Swiss gum; this is boiled in sufficient water to make 40 gal. The webbing is run through the solution at a temperature of about 130°F. It then goes through two sets of squeeze rolls, the bottom roll being hard rubber and the top roll medium soft rubber. We change rolls frequently and get the same result from new rolls as we do from those which have partly been worn. (7231)

The most notable variation in color is between the face and back of the fabric, where there is a difference in both weave and yarn. The light edges are where the yarns of the back somewhat intrude on the face. The unevenness of the face is hardly what would be called uneven dyeing, but is rather a shading caused by varying luster and twist of the yarn itself.

It is true that some dyestuffs are more selective than others and are inclined to accentuate little differences in the fiber itself, while other dyes will give level shades on the same goods. It may pay you to try some other dyes in the hope of getting one that is inclined to give more solid shades. A variation in the temperature of dyeing is also bound to influence the result, and should be checked up to see if you are using the most favorable temperature.

◆

Bicarbonate of Soda in Silk Soaking

Technical Editor:

Will you please advise if bicarbonate of soda would be harmful in a soaking bath prior to winding for Japan or China raw silk that is to be thrown into grenadine or crepe twist? (7208)

Bicarbonate of soda, if intelligently used, is not harmful in soaking, but is helpful in throwing grenadine and crepe twist.

New Machinery & Processes

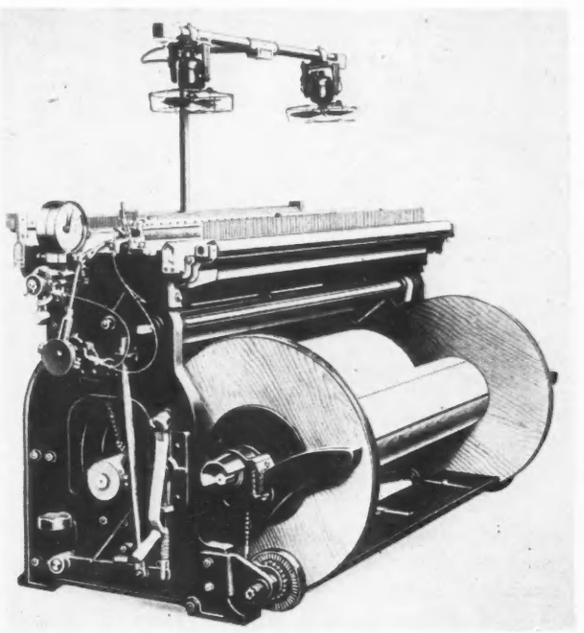
High-Speed Warper

WARPING at any rate of speed permitted by yarn and creel conditions is made possible by means of a high-speed warper placed on the market recently by Draper Corp., Hopedale, Mass. The warper may be used with any modern creel designed for high-speed warping and takes beams up to 28-in. diameter, using an Allen beam with special steel-plate reinforcement. A friction let-off, which varies the tension according to the size and weight of the beam, insures a hard, firm beam of even texture at the two ends and is equipped with an indicator to assist the operator in making any necessary adjustment.

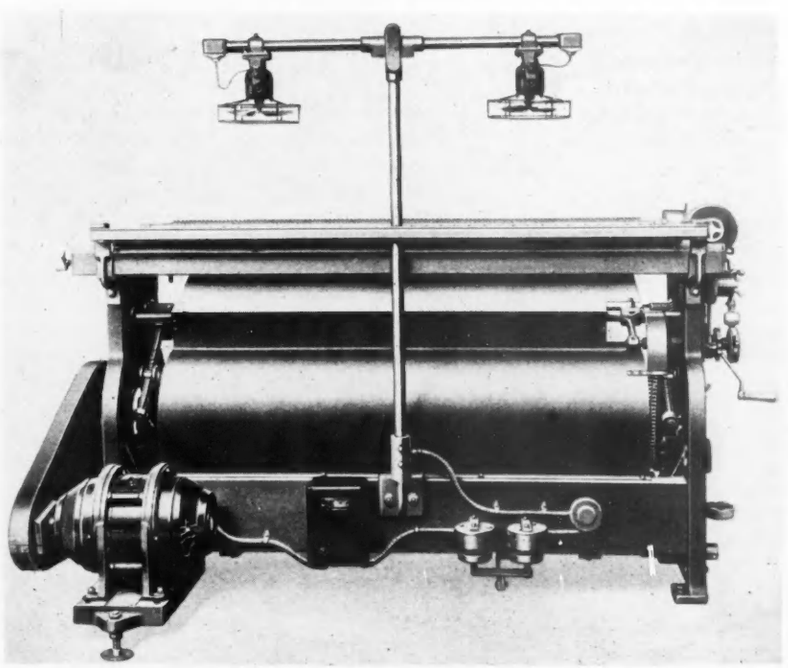
Powerful internal brakes with two-piece adjustable shoes and double row of cork inserts operate quickly and positively, are easily adjusted to wear, and can be readily repaired or replaced. Time and labor in doffing are saved by means of a beam doffer regulated by screws with triple threads. Other features include a sliding-bar stop motion of the loom type with device to open the warp where an end is down, a fluted cylinder to prevent slippage and insure accurate measurement of the yarn, oscillating fans on top of the machine to keep the warp free from lint, and a fully enclosed back to provide further protection against lint and other foreign substances.

Combs are of the Rhoades expansion type, with metal cases designed to prevent accumulation of lint in the case. The warper starts positively and runs smoothly at an even yarn speed, the surface speed of the beam being constant. It is protected against careless or accidental starting without resetting the clock after a change of beam.

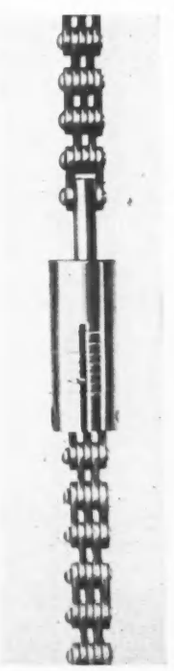
Use of the high-speed warper is said to permit increased production with fewer machines and less labor and, at the same time, to prevent warp defects and thus eliminate waste. Another advantage claimed for this machine is its quiet operation with little vibration. It is equipped with Whitney silent-chain drive without gears. Enclosed roller bearings on the main shaft run in soft grease, which needs renewal only every two months; roller bearings on the beam arbors are full-floating and self-adjusting to such inclinations of the arbors as may



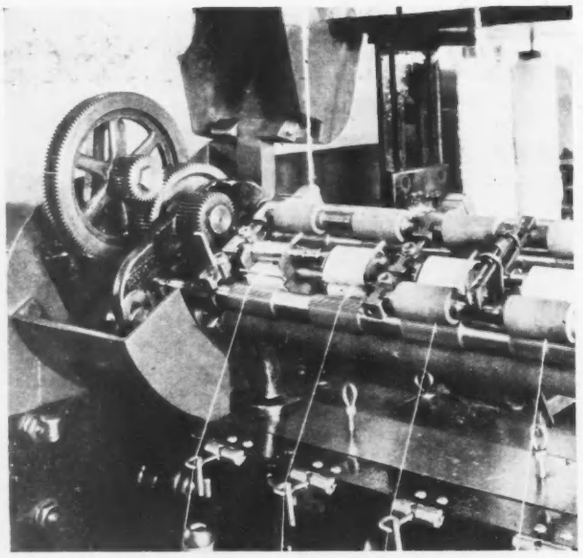
High-speed warper



High-speed warper showing fully inclosed back and silent-chain drive



Spring-tension indicator for high-speed warper



Improved Casablancas long-draft system applied to spinning frame

result from handling of heavy beams. The beam bearings may be greased or oiled once a day when the beam is changed. The warper is of staunch construction, and is built low and compact, making it easy to reach the yarn.

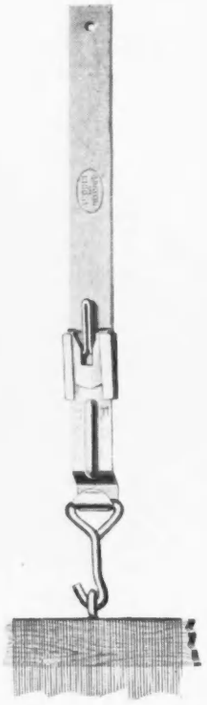
Casablancas Long-Draft Spinning

SEVERAL improvements in the Whitin-Casablancas long-draft spinning system have been announced recently by Whitin Machine Works, Whitinsville, Mass. Among these innovations are included a new cradle, which is clean and simple and which positively guides the leather bands, and wider bands, which permit full traverse of the roving. A revolving top clearer is used on the front roll and a stationary top clearer on the two back lines. With this arrangement it is only necessary to pluck the clearer boards once a week instead of three times a day. A small revolving clearer has been placed inside the top leather apron to pick up the lint which would otherwise wrap around the pin, making it possible to run the pins twice as long as formerly before cleaning them.

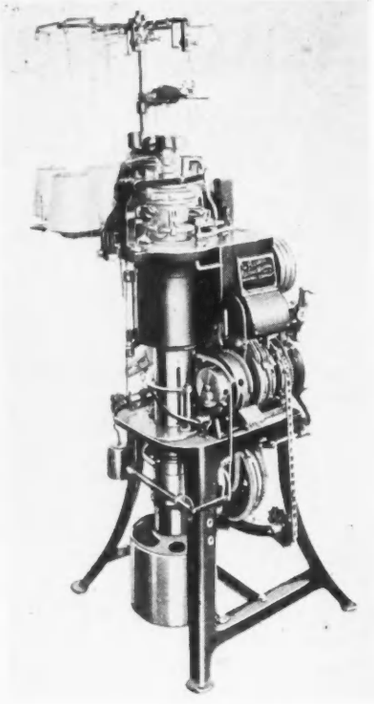
Spacing between the middle and back rollers has been increased from $1\frac{1}{4}$ in. to $1\frac{7}{8}$ in. in order that a higher break draft may be given for opening up the roving to permit more even drafting between the aprons and the front rollers. This feature, it is said, does away with the necessity of using special slack-twisted roving and increases the breaking strength of the yarn. Adjustable back-bar blocks and roll slides allow ready, accurate, and individual setting of the rolls. Setting of the aprons is now flexible. A sheet-metal side-rail casing, adaptable to any spinning frame, encloses the rail inside and out and reduces the cleaning necessary at this point. Hardened steel, twenty-pitch draft gearing is now furnished as standard equipment.

Harness-Strap Buckle

HARNESS-STRAP adjustments are facilitated by means of an improved harness buckle recently developed by Graton & Knight Co., 356 Franklin St., Worcester, Mass. A lever and clamp make possible quick



Harness-strap buckle



Automatic hosiery ribber

adjustments and also eliminate the necessity of holes in the strap; the clamp is designed to distribute strain equally over the full width of the strap. A steel hook assures permanent adjustment, so that the harness when once adjusted requires no further attention until the warp has run out. Since it is unnecessary to turn the screw-eye to obtain fine adjustments, broken harness eyes are prevented. Use of this type of buckle is said to insure better weaving; greater production; less wear on shuttles and reeds; and fewer scratch-ups, threads out, and bad selvages.

Automatic Hosiery Ribber

A NEW automatic ribber for children's hose and men's half-hose, including fancy rib, has been placed on the market by the Hemphill Co., Pawtucket R. I. The aim has been to keep the mechanism simple and the parts accessible. The machine has been built with heavy frame and heavy bearings in order that it may stand continuous 24-hour operation without difficulty.

The most novel and interesting feature in the new ribber is the provision for swinging the dial back out of the way. This feature makes the cylinder practically as accessible as in a plain machine. The machine can be run with the dial back, knitting plain—a unique provision. To swing the dial from knitting position it is simply necessary to loosen two screws in the support at the back of the machine, raise the carrier ring, and push it to one side. After returning it to position it is unnecessary to retune the machine in any way.

The controls for rib knitting and plain knitting are entirely separate and independent of each other. The rib control may be thrown out of operation at any time, allowing the machine to knit plain without interruption of the knitting. The controls for stitch adjustment for both rib and plain knitting are also separate and independent.

The take-up is of the type found on true-rib machines. It constantly pulls down on the fabric in spite of the fact that it revolves with the cylinder. It is supported by the fabric, and automatically climbs up after falling a certain distance. Yarns can be interchanged at will for stripes, foot, heel, etc. A stop motion halts the machine when any needles break.

The ribber is now made in $3\frac{1}{4}$-, $3\frac{1}{2}$-, and $3\frac{3}{4}$-in. sizes; and in 48, 36, and 24 gauge. Coarser gauges will be added later.

Welding Rod

WELDITE C No. 6 Fluxed, a new rod designed for carbon-arc welding is announced by the Fusion Welding Corp., Chicago, Ill. This rod is particularly designed for welding mild-steel plates and castings. Welding speed is said to be substantially increased and the deposit is strong and ductile, being more readily machinable than deposits made with the usual filler rod used with the carbon-arc process.

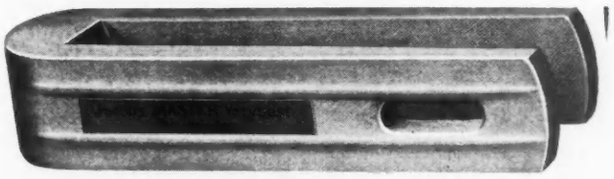
According to the manufacturer ease of manipulating the arc, due to the influence of the flux coating which causes the arc to pull from the hottest part of the weld puddle, rather than jumping to the colder edges as is usually the case with the carbon-arc process, has enabled operators to attain welding speeds considerably higher than is possible with the usual bare filler rod. It is further stated that heavy section welding of mild steel furnishes a favorable application for this rod, as the weld deposits are sound and strong.

Loop Picker and Lug Strap

TWO improved loom accessories, a loop picker and a lug strap, have been placed on the market recently by E. H. Jacobs Mfg. Co., Inc., Danielson, Conn. The "Verybest" loop picker which is applicable to Northrop and Stafford looms, has been developed to withstand shuttle-point wear and to suit the exacting conditions imposed by high-speed automatic machines. Use of Textolite as a component part of the device is said to prevent cracking open of the face of the picker, to provide a material well adapted to withstand shuttle impact, and to give a firm bearing surface on the face of the picker stick. A leather collar, of high strength and with little stretch, is molded around the Textolite insert.

To insure uniformity of shape, the picker is made with automatic machinery. According to the manufacturer, the new pickers are not only uniform in shape and quality, but are also extremely durable and will outwear any ordinary leather loop picker.

The "Master Verybest" lug strap is a well-balanced molded product designed to insure equal distribution of the load on each layer of the canvas. Extra surface has been built into the new device in order to eliminate the plug and rivet used in the old style of lug. The sides of the strap are tapered with extra material at the point of greatest wear.



Lug strap

Improved Blending Attachment

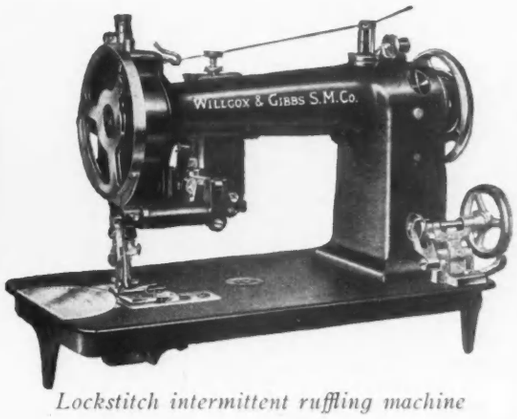
CURTIS & Marble Machine Co., Worcester, Mass., has announced a number of changes and improvements in the Truslow blending attachment for picker rooms.

Among these innovations are a small cone added to the top of the spindle which supports the rotating cap or umbrella, and piping made with "lobster-back" elbows to give more rounded turns than was possible with the older style of piping. In addition, to increase the durability of the device, the bevel gearing has been made stronger and heavier and the base of the supporting column made stronger and larger.

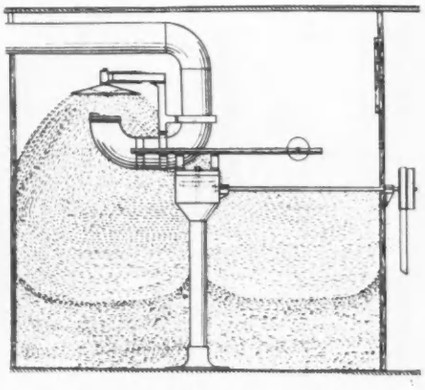
Lockstitch Intermittent Ruffling Machine

WILLCOX & Gibbs Sewing Machine Co., 656 Broadway, New York, has recently introduced an intermittent ruffling machine for use where either continuous or intermittent ruffling effects are desired. The machine is of the lockstitch type and operates at the high speed of 3,500 r.p.m. These features are said to make it particularly applicable for yoke-ruffling operations on men's shirts, curtains, tapestries, and similar garments and fabrics.

Loop picker



Lockstitch intermittent ruffling machine



Improved Truslow blending attachment

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READING, PA.

323 So. Franklin St.
CHICAGO, ILL.

James Building
CHATTANOOGA, TENN.

52 Chauncy St.
BOSTON, MASS.

HAMILTON, CANADA

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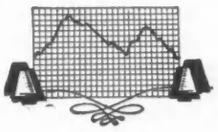
TEXTILE WORLD ANALYST



Raw Cotton Is Likely to Sell at 13c.

Commodity Still Bearish with Yarns and Gray Goods Remaining Weak, Says Dr. Haney

STATISTICALLY, an outstanding fact concerning cotton is that the average price for the season is turning out to be considerably lower than would have been warranted by the total supply available for the season. Our 15½c. estimate as to the worth of cotton was based on supply, with some allowance for the decline in the general level of commodity prices. Obviously, the demand factor has been very important. The present low levels must be considered as due chiefly to the depressed condition of the textile markets throughout the world, which has caused a lowering of the demand schedules of buyers.

Perhaps it is not worth while to attempt an estimate of this sort under present circumstances, particularly at this stage in the development of a new crop.

A guess, however, might place the possible range of spot middling cotton at New York between 11c. and 14c. Assuming a new crop of about the same proportion as last year's, and a continuation of depressed conditions, a price of about 13c. seems to be indicated. Improved demand, offset by a larger crop, might result in about the same estimate. It would probably take both a gain in the textile business and a reduced crop to hold cotton above 14c.

Bull Points

1. Crop progress is only fair in large parts of the belt, with cool nights and weevil weather in the East.
2. Some indications are given of better foreign buying, and stronger markets are reported on the Continent.
3. A little improvement is shown in domestic spot demand, with some southern mills reported to be buying more freely.
4. The cooperatives are likely to hold their cotton off the market regardless of cost.

SUMMARY

Cotton is cheap, but that will not put it up, for demand continues inadequate. It now seems that a range around 13c. is indicated. Yarns are likely to fluctuate with raw cotton. No recovery in gray goods is in sight.

•

The analysis and forecast by Dr. Lewis H. Haney, Director, New York University, Business Research Bureau, which regularly appears on this page, considers various branches of the textile industry from week to week. The conclusions reached in the Analyst are mostly forecasts and generally apply to a time two or three months ahead. The Analyst is based on statistical data and does not reflect temporary trade sentiment.

5. Cotton prices are at or below cost of production in many sections.

Bear Points

1. Weather conditions are reported as mostly favorable.
2. English markets continue very depressed, and the boycott in India and Chinese disturbances continue.
3. The statistical position is unfavorable; a large carryover is certain.
4. Domestic mill consumption is greatly reduced.
5. Over-production of yarns has not been remedied sufficiently.
6. The statistics of the New York Cotton Textile Merchant's Association are very bearish.
7. Speculative demand shows little increase on price recoveries.
8. General business depression continues; low prices prevail for burlap, silk, and rayon.

The balance of favorable and unfavorable factors continues on side of latter.

Statistical Position

We now estimate domestic consumption for the season at about 6,150,000 bales. Exports are likely to run about 6,900,000 bales. This makes a total "disappearance" of only 13,050,000 bales, and leaves about 3.9 million bales as the indicated carryover, which, with the "city crop," would bring the actual up to about 4.2 million bales.

Total mill and warehouse stocks in this country are the largest since 1921, and show the smallest decrease in May that has occurred in that month since 1921.

Mill stocks have been exceeded only in May, 1923, and May, 1927. May exports were the smallest since 1923, and the total of exports for the season is nearly 1.4 million bales less than last year.

World spinners' takings of American cotton are more than 2 million bales under a year ago, while the world visible supply of American cotton is more than 1 million bales larger, and has been decreasing less rapidly than usual for the season. A statistical summary is presented in Table I.

It is noteworthy that the total domestic supply of all cotton available on June 1 is the largest for any of the six years, and indicates the largest percentage of the crop still available. Accordingly, the June average price is the lowest found in recent years, and is the farthest below the average for the current season. This emphasizes the influence of demand weakness and shows the effects of the increasing visible supply.

Demand and Supply

Our main cotton barometer chart continues bearish. The supply available for the balance of the season has increased sharply and is unusually large; domestic consumption has declined sharply and is unusually low; the same is true of manufacturers' replacement margins.

At the end of May, we find the largest

If a Cotton Fabric Could Choose Its Own Yarns . . . . .

If it could, the fabric itself would prefer to be woven of Quissett Yarns. Because strong, even Quissett yarns, with the twist always right, assure a fabric woven smoothly and efficiently, a fabric that will take a beautiful finish and is readily salable.

Of course, the fabric has no say in the matter. But mill men have. And scores of mill executives use Quissett Yarns exclusively. They know that the most skillful weaving and dyeing, the finest finishing are of no avail without Quissett quality in the basic yarn. They know through experience that Quissett keeps production in the weave shed smooth, unbroken and low in cost; that when you begin with Quissett yarn, the ultimate fabric can be more easily sold on the open market.

Quissett Yarn is spun from the finest early bloom Cotton—Egyptians, Sea Island, Peelers, Sakelarides, Pimas and Peruvians—in a variety of counts and in practically every twist and put-up.

Learn why Quissett can enhance your fabrics—send for samples in your usual put-ups.

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New Bedford, Mass.
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QUISSETT MEANS QUALITY

QUISSETT COTTON YARNS

domestic supply of all cotton since 1921, exceeding slightly even November, 1926. The figure is above a line representing the normal growth of consumption, for the first time since June, 1927. It is the highest in comparison with mill consumption since 1921.

Average daily mill consumption in May declined much more than usual for the season and is only about 90% of average. It about equals the rate in September, 1925, and September, 1924.

Manufacturers' replacement margins in May averaged only about 73% of the average level during 1921-26, and were the lowest since July, 1924.

The data covered in this chart, taken alone, would indicate 15c. as a *maximum*, as we note that the season average for 1926-27 was 15.1c. In that year, the supply was about the same, but manufacturers' margins were higher, and mill consumption was larger and was expanding. At present, there is every indication that the end of June will see a further increase in the curve of available supply, with the consumption curve still lower. All this tends to confirm the guess made as to price ranges in the opening paragraphs.

Yarn Declining

Yarn prices have declined, the June average being only 69.7% of the average for the years 1921-25. This compares with 72.9% in May and 85.8% a year ago. Thus yarns average close to the low point reached in January, 1927, and with that exception are the lowest since August, 1921.

Can yarn prices recover in the near future, as they did in 1927? In 1927, orders for cloth were gaining, spindle activity was on the rise, spinners' margins were stabilized, and gray-goods manufacturers' margins were relatively high. Raw cotton was advancing. At the present time, none of these conditions exists. The trend of our yarn barometer has been downward, and spinners' margins are declining and are relatively low in comparison with the margins of gray-goods manufacturers.

Moreover, such direct data as are supplied by the carded sales yarn manufacturers are unfavorable. Although production decreased in May, stocks increased and were the largest in comparison with production found in several years. At the same time, unfilled orders were reduced and were the lowest since August, 1928.

Trade news indicates that the yarn market is in a position to respond closely to raw cotton, but not to show independent strength.

Gray Goods Prices

The average price of gray goods remained unchanged in May, at 67.9% of the average for 1921-25. More recently the trend has been downward.

The only favorable statistical indication is the rise in wholesale dry goods sales during March and April. This, however, was apparently due to an early Easter and perhaps to price cutting.

Shipments of finished goods have been below billings for the first time since 1925, while orders continue lower than either billings or shipments. The figures published by the New York Cotton Textile Merchants' Association show that although production was curtailed in May, shipments were still lower, and stocks therefore increased. The average weekly sales were sharply reduced and fell far behind orders, so that unfilled orders reached the lowest point since July, 1926.

When stocks of goods decline and unfilled orders rise, it will be time to look for a sustained advance in gray-goods prices.

Table I

	World Supply American Cotton Available for Season (Mil. Bales)	Ginnings (000 Running Bales)	Total All Cotton Available June 1 (Mil. Bales)	June Average Price	Season Average Price
1929-30	*19.5	14,544	5.6	*14.60c.	*17.07c.
1928-29	19.7	14,296	3.7	18.62	19.65
1927-28	20.5	12,783	4.0	21.54	20.33
1926-27	23.9	17,755	5.3	16.85	15.07
1925-26	19.7	16,122	4.7	18.51	20.52
1924-25	16.6	13,639	2.5	24.13	24.74

*Preliminary.

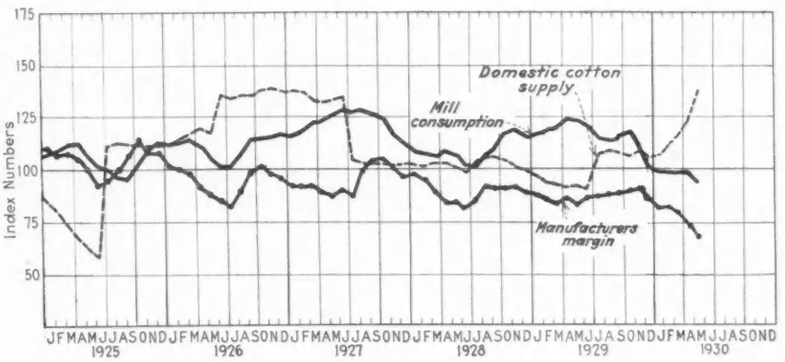
Domestic cotton supply
Mill consumption
Manufacturers margin
Index Numbers
175
150
125
100
75
50
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
1925
1926
1927
1928
1929
1930

Fig. 1. GENERAL COTTON BAROMETER: Consumption—Average Daily Adjusted for Seasonal Variation, three-month moving average; Manufacturers' Margin—Average of Replacement Margins; Average Monthly Available—Net Domestic Available for Crop Year Adjusted for Seasonal Variation. 1921-1926 = 100 for all indexes.

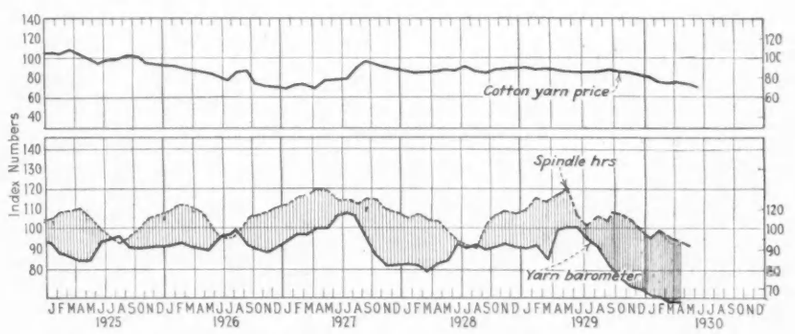
Cotton yarn price
Spindle hrs
Yarn barometer
Index Numbers
140
120
100
80
60
40
130
110
90
70
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
1925
1926
1927
1928
1929
1930

Fig. 2. COTTON YARN BAROMETER: Cotton Yarn Price Textile World *Index. Spindle Hours—Three-month moving average (Dept. of Commerce). Yarn Barometer—Based on orders from cotton cloth. Average of recent years = 100 for all indexes.*

The Textile Trend

Cotton Textile Markets: Staple piece goods continue slow, but there is fair activity in numerous specialty cloths. Volume in June is considerably better than for May. This, plus smaller production in current month, has kept the market from a worse statistical position, although no move toward betterment is apparent. Goods prices as well as cotton quotations have eased still further. Price differential between cotton and goods remains about the same; slightly better in heavyweight goods, and less favorable in lightweights.

Wool Textile Markets

Basic conditions in the wool-goods market show practically no change.

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. . for every standard need of the knitting and weaving trades. And if you require something "special", these mills are ever ready to cooperate in producing the yarns to suit your styling requirements.

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TALLAPOOSA MILLS
MARY LOUISE MILLS

High grade carded weaving yarns.

ARLINGTON MILLS

Bradford Spun worsted yarns for knitting and weaving.

Business has turned somewhat quieter with the bulk of interest centered on tropicals. Several leading sellers in the popular-priced range had a good yardage placed on duplicates of fall suitings. Stocks throughout the market seem in healthy shape with mills keeping production to an order basis. Overcoating business draggy due to a large extent to uncertain credit conditions. June in-between-season month for worsted yarns; prices barely steady.

Knit Goods Markets

Hosiery improved, thanks to more active call from retailers for grenadine-twist numbers; the dull-luster lines retailing at $1.50 to $1.95 were moving spottily, with some mills active and others complaining of dullness. Half-hose was fair; low-priced lines sold moderately well. Lightweight underwear improved, both rayons and cottons being in good call; sentiment regarding fall lines was hesitant. Outerwear interest centers on bathing-suits and rayon polos, both of which continue moving. Bathing-suit demand is extending later than usual, and is expected to wane within a few weeks. Polos are selling spiritedly, the call being for all the brighter colors.

Silk Textile Markets

Raw silk continues soft; prices are 5 to 7c. below last week. All quotations are nominal, silk selling virtually at whatever is offered. Broadsilk weavers are holding off on fall contracts, due to hesitancy regarding the outlook. Thrown yarn is spotty; some business is being placed but it is limited to a few firms. Spun silk is quiet but confident, with the market now entering its mid-summer lull; shantung yarns are still selling, but more lightly than hitherto. Broadsilks for fall are in moderate call, the interest being mostly in canton crepes.

Textile Share Trading Light

Rigid Economies and Controlled Production Yield Profits for Hamilton

Boston.

DURING the past week the break in stock prices on the New York Exchange continued with little intermission. The American Woolen shares stood up well, at no time returning to the lows of the previous week. On Tuesday, not a share of preferred came out and the common was one of the few stocks making a gain for the day. Amoskeag on the Boston Exchange made a new low of 11, while Pacific returned to its year's low of 20. In the New Bedford market a group of active shares registered a net loss of 1.56 while a group of Fall River shares sagged for a small average loss of .92. There is nowhere seen any pressure to liquidate textile shares, on the other hand demand continues very small. At the Boston stock auctions only 238 shares were sold. A sale of 35 shares of Hamilton Woolen was made at 40, without change from previous sale. Naumkeag lost two points, Berkshire preferred gained ½ point, and Arlington advanced 1¼ points.

Little Progress in Merger

The Bancamerica-Blair merger has apparently made little reportable progress during the week. Something has occurred to prevent any speedy consummation of the plan. Whether the difficulties are confined to the practical inception of the merger or whether the proposal is held in abeyance for reasons considered good by the bankers no one on the outside seems to know. In some quarters it is suggested that a super-combine of fine goods mills may eventually be organized resulting from the merging of Bancamerica and Berkshire groups. The Berkshire group has no mill in New Bedford but is frankly desirous of securing one. The failure of Bancamerica auditors to appear at the New Bedford mills of the proposed combine has confirmed the opinions of those who believe that the Bancamerica plans are undergoing expansion.

The strong comeback in the affairs of the Hamilton Woolen Co., a producer of worsteds, not woolens as the name might suggest, ought to do something toward stemming the tide of pessimism in textile circles, and is strongly reminiscent of the unexpected action of the Amoskeag a few weeks ago in declaring a dividend. During the past two and a half years Hamilton has paid off $2,000,000 in debts, built and equipped a new dyehouse and added $600,000 of new capital. Treasurer Lennihan in ascribing a good share of the success to the elimination of loss incident to making the wrong thing at the right time or the right thing at the wrong time is optimistic regarding the future of wool manufacturing, expressing the belief that within the next two years conditions will bear a strong resemblance to a seller's rather than a buyer's market.

Hamilton Declares Dividend

Directors of the Hamilton Woolen Co., Southbridge, Mass., at a meeting held in Boston, June 23, declared a dividend of $1 a share payable July 15 on the 38,772 shares of no par value common stock outstanding, to stockholders of record June 30. This dividend is the first to be declared since Jan. 10, 1925, and will be paid out of earnings for the six months period ended May 31 last, which, after all charges, including interest, depreciation and reserves, totaled $86,502. For the fiscal year ended Nov. 30, 1929, the company reported net profit after all charges of $190,937, equal to $4.92 per share; in 1928 there was a net profit of $85,089, or $3.29 per share on the 25,850 shares then outstanding; in 1927 there was a loss of $300,694 and in 1926 a loss of $502,783. As of May 31, 1930, the company's finances also showed improvement, cash on hand and in banks increasing $199,000 to $447,000, while inventories were reduced $311,000 to $989,000. Working capital increased and bank loans remained unchanged. Book value of the stock stands at about $75 a share and net quick assets approximately $58 a share. This is interesting in view of the 1928 proposed liquidating value of the fewer shares of under $27 a share.

Results for the last 2½ years tend to justify the opinions of Treasurer Richard Lennihan expressed in February, 1928, when the question of liquidation was being considered. At that time Mr. Lennihan felt confident that by applying rigid economies in manufacturing, scrapping obsolete machinery and concentrating operations on new and profitable fabrics, stockholders would realize a profit within a reasonable period. Two-thirds of the stockholders endorsed Mr. Lennihan's recommendations, liquidation was avoided, and the new program was initiated. Balance sheet items were slashed, valuation of capital stock was cut from $2,585,000 to $1,292,500 through reduction from $100 par to no par; tenements, vacant land, antiquated machinery and other mill property were sold, new machinery was purchased where needed, new lines were added, including properly-styled women's wear and light-weight men's wear, and Hamilton fabrics were re-established in the market by aggressive sales policy.

On the matter of future dividends, the Hamilton Woolen management is non-commital. Directors state that the present dividend action is not to be construed as adoption of a permanent dividend policy. However, there appears to be reasonable assurance of a like dividend six months hence.

Pequot Treasurer Optimistic

Better business in the textile industry and particularly in wide sheetings is anticipated beginning next month or in August said Treasurer Ernest N. Hood, Pequot Mills, Salem, Mass., at a meeting of the board of directors at which a quarterly dividend of $2 per share was declared payable July 1 to stockholders of record June 24. "The country has passed through a major panic, but it is now generally recognized that recovery is already underway," said Mr. Hood. "We believe that in our line of textiles much better business is in prospect and beginning next month or in August the

"MADE OF BEMBERG" IS A STAMP OF QUALITY

Merchandise made of Bemberg is

DIFFERENT and BETTER

than ordinary merchandise because Bemberg Yarn itself is different

The underthings shown here are of one bar tricot knit fabric of Bemberg by Sakura Silk Co. The stockings are 42 gauge semi-chiffon of pure Bemberg. The negligee is of Svelda Chiffon, one of the many all-Bemberg fabrics made by Aberfoyle.

The Bemberg filament itself is the finest spun by man. Bemberg Yarn contains more filaments than silk in the finer sizes—the same number in the larger sizes (see table of deniers and filament content below).

This unique Bemberg characteristic has made it possible for leading manufacturers to make pure dye fabrics, underwear and hosiery of Bemberg or Bemberg and silk, which are so outstanding in beauty, feel and wear that they sell on quality rather than on price.

The sports frock illustrated is made from an all-Bemberg Satin Jersey fabric sold by A. I. Wyner & Co. Because it is Bemberg its whiteness stays white despite sun and washing.

COMPARE BEMBERG'S FILAMENT CONTENT WITH ANY OTHER TEXTILE YARN

Bemberg is the only man-made yarn available commercially in the 15, 25 30 and 40 denier sizes. Note the high filament content of all deniers, particularly the finer ones.

DENIER	FILAMENT	DENIER	FILAMENT
15	25	65	45
25	25	80	60
30	25	100	75
40	30	120	90
52	30	150	112

The Kingsboro Silk Mills, Inc., of Gloversville, N. Y., make the bathing suit illustrated from their new two bar tricot weave of Bemberg.

This semi-tailored dress of Printed Svelda Chiffon Crepe, an all-Bemberg fabric, is made by Alfred Stern.

Bemberg
BRAND YARN

Over 3000 stores are selling merchandise made of Bemberg

AMERICAN BEMBERG CORP., 180 MADISON AVE., NEW YORK CITY

demand will be such as to have a stimulating effect on the industry. Despite many adverse circumstances during the past six months the distribution of Pequot products has held up remarkably and sales have approximately equalled those for the same period last year. Our stock of goods on hand at this time is materially less than it was in June last year."

Dominion Textile Co., Ltd., cotton goods, Montreal, Canada, earned $6.06 per share of common stock in the year ended March 31, 1930, as compared with $6.47 in the previous year, according to the annual report just issued. Operating profit stands at $1,518,321 compared with $1,652,562 in previous fiscal year.

Boston Stock Auctions

The following sales of textile shares were made at Wednesday's auctions:

Shrs.	Mill	Par	Price	Change
35	Arlington	100	23½	+1¼
15	Associated Textile	...	35–36½	....
25	Nashawena	100	20	—5¼
25	Wamsutta	100	14	—7
80	Naumkeag, ex. div.	100	84–86	—2
23	Berkshire Fine Spinning, pfd.	100	70½	+ ½
35	Hamilton Woolen	100	40	....
238	Total.			

Light Trading in South

Charlotte, N. C.—The average of bid price of 25 common stocks of southern cotton mills as furnished by R. S. Dickson & Co. gives the close for the week ended June 21 at 74.88 compared with the close for the previous week of 75.00. The volume of trading was light throughout the week and only minor advances and declines were registered in the entire list.

Boston Wool Receipts

Receipts of domestic and foreign wools at Boston, also imports at Philadelphia and New York for the week ended June 21, based upon data compiled by the Market News Service of Bureau of Agricultural Economics, Department of Agriculture, are as follows:

Domestic	13,200,000	79,095,300	58,700,000
Foreign	460,000	41,530,000	68,656,000
Total	13,660,000	120,625,000	127,356,000
IMPORTS AT PRINCIPAL PORTS			
Boston	460,000	41,530,000	68,656,000
Philadelphia	333,000	28,903,000	42,325,000
New York	806,000	26,879,000	40,736,000
Total	1,599,000	97,312,000	151,717,000

Rayon Imports Are Less

Imports of rayon yarns, waste, staple fiber and yarns made from waste into the United States during the month of May, 1930, as compared with May, 1929, reported by the Dept. of Commerce, follows:

	May, 1930		May, 1929	
	Pounds	Dollars	Pounds	Dollars
Yarns, Threads and filaments	487,225	394,896	1,589,337	1,199,511
Waste	140,577	16,212	350,302	71,341
Yarns Made from Waste	30,409	17,741	63,604	40,971
Staple Fiber	4,013	1,557	923	301

June Poor Cotton Yarn Month

Speculative Buying By Weavers Is Encouraging

Philadelphia.

THE end of a poor month for sales cotton yarns is close at hand, with majority of sellers reporting that total volume will be approximately equal to that of April, which was the previous small month. Yet there have been encouraging signs during the last two weeks which may become important indicators for the rest of the market. Rather than discouragement, there is a better feeling, and the trade believes the worst has passed.

For the first time this belief has been backed up with actual business; a fair number of weavers, using carded counts, have come into the market, covering from 25% to 40% of their needs ahead. Several orders of this type have been reported that call for deliveries until the latter part of December. These manufacturers have no goods business of account to warrant these purchases, but they believe that yarns bought at current levels will be cheap when fall comes.

Orders have not been excessive in size, the largest calling for 60,000 lb., with others at 50,000 lb. mark. However, the fact that manufacturers are beginning to buy on speculation is encouraging, and is now apparent for the first time since the raw material market began its long decline. Fear of lower cotton is causing excessive conservatism among buyers, and these orders may indicate in future months the moment when the tide first began to turn. Buyers feel that while cotton and yarns may go lower, further decline will not be of importance.

Carded Weaving Yarns Improve

This buying of carded weaving counts is the brightest spot in the market; carded knitting counts are next most active, but nevertheless, together with combed and mercerized, are dull with prices inclined to be soft. Deliveries on contracts placed previously have been holding up better than spinners had anticipated, although they admit that they are not booking new contracts or orders.

Underwear manufacturers in Pennsylvania are running on light-weights and medium-weights. The latter take 18s to 24s; specifications for lightweight counts are decreasing, while those of medium-weights are increasing. Yarns are being consumed, and good deliveries indicate that sooner or later duplicate contracts will come to spinners.

Carded prices are generally ½c. under those of last week, although there is no definite price level. Some sellers are willing to cut prices more drastically than others to book immediate delivery orders. Example of this may be seen in plush quality warp quotations. Leading spinners have held close to 36c. for 30s-2, for yarn which they will recommend. Others are offering plush warps 3c. lower, but in few instances are they willing to say whether they would guarantee manufacturers against streaks in goods.

Small Combed Demand

Combed spinners are experiencing as small demand as they can remember for a long time; there is little interest from processors and weavers are not in the market. Prices are holding well in cases of more representative combed spinners, but there are others who are cutting to attract enough business to run them for a short time ahead. The largest combed groups report that stocks in their possession, while adequate, are not excessive.

This the best feature of the current situation, that, when improvement does come, it will not be necessary to unload excessive stocks before spinners will benefit. The entire situation, from spinners to manufacturers, is well liquidated so far as large stocks of yarns are concerned.

This week is the most encouraging the market has seen in more than two months—since April, according to several houses—and for the first time manufacturers have bought speculatively in advance of goods orders, in the belief that prices of yarns are at "bargain" levels. This trend may become more noticeable in July, especially should cotton harden.

●

New York.—A slight tinge of improvement seems noticeable in cotton yarn trading even though recent buying cannot be termed satisfactory. The most prominent fly in the ointment is the constant easing of prices, both of raw cotton and of yarns. There is business to be had, however, say dealers, and in greater volume than in the last few weeks, if quotations are fairly elastic. Last week there seemed to be a fair poundage put on the books of some spinners, but prices were admittedly low.

On the more cheerful side of the picture, several believe that the worst has been passed. The market is likely to enter a more constructive period during July, it is thought.

Combed yarn spinners find considerable more interest among their trade, but find it hard to pin buyers down to ordering. Customers all admit that they think there will be a turn during the

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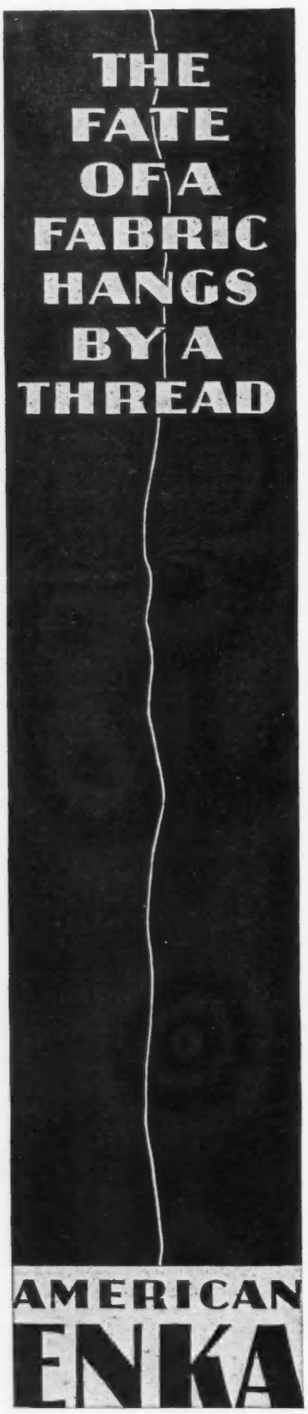

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American Enka Yarn now available in 75, 100, 120, 150, 200 and 300 denier, standard or multi-filaments, in skeins or on cones.

next two months, but are unwilling to take a chance. They would sooner wait until actual improvement is at hand and then cover even at higher prices.

Due to the passage of the tariff, with its duty on cotton 1⅛ in. staple and longer, spinners state that a rise of 10c. in many combed descriptions is highly probable once volume buying starts. No action has been taken yet due to general dullness coupled with the fact that the majority of mills have cotton on hand.

●

BOSTON.—The yarn market is thin, weak, and altogether unprofitable. An over-supply of yarns, a declining market in the raw material, and a poor goods market combine to produce an exceedingly unsatisfactory situation for yarn sellers in the Boston district. The slight improvement under way disappeared quickly as cotton declined well below 14c. Yarn quotations became very irregular, with a wide spread noticeable in the asking prices of spinners. The contention of would-be sellers that many counts were well below cost of production had little influence in closing business; buyers admitted the fact, but declined purchases until current unsettlement should show some signs of clearing.

SPINDLE ACTIVITY SLUMPS

Curtailment in the spinning industry in May slumped precipitously more than 38 million spindle hours daily for the month, and, as compared with May, 1929, the decline in spindle hour activity showed a reduction of approximately 92 million spindle hours for each working day of the month. The following table shows average daily number of spindle hours in millions for the industry as a whole:

	1928	1929	1930
April	300.62	345.25	292.41
May	300.34	345.83	253.93
Jan.-May aver.	311.15	345.86	287.44

How many million hours per day the spindles of the industry ought to operate to balance production and consumption safely and sanely is one of the unsolved problems, but there is little reason at time of writing to suppose that the ultimate low basis has been reached. June will probably show a further decline in spindle activity.

Spinners and yarn dealers are at a loss how to deal with the situation. More mills are preparing to curtail drastically. Not a few spinners are tired of the kind of orders that involve operating at a loss. Not a few of them have decided to make no more price concessions until cotton becomes stabilized. Buyers in the meantime find no difficulty in securing such yarn as they need, and there is no inducement from this angle to purchase ahead. Carded yarn rates are weak, but the knitting yarns are relatively firm, while combed yarns, nominally firm, are meeting very small demand.

Worsted Yarns Between Seasons

June Dullness in Market Is Largely Seasonal

PHILADELPHIA.

TAKING the market as a whole, trading is far from satisfactory, but then June usually is a between-season month. Yet there is activity in spots, larger sales of single counts to the bathing-suit trade being reported. These will not benefit spinners until late in the fall, as these manufacturers will not begin to take deliveries until that time. Spot delivery is good in men's wear mixtures, and infants' lines are also consuming large quantities.

Other lines, including sweaters and dress goods, are quiet in respect to both new contracts and specifications. Spinners are holding to former quotations which have been in effect for several weeks; changes, where made, have been downward but unimportant.

Bathing-suit manufacturers have been placing business for fall delivery, one spinner booking a large order calling for 150,000 lb., of 18s. 64s. dyed, at a reported price of $1.40. Other spinners are holding this count and quality at least 10c. higher. This count and grade has become popular with bathing-suit trade this season and if it proves popular with consumers this summer it will prove one of the largest bathing-suit numbers for spinners.

BATHING-SUIT RUSH OVER

The outerwear section of market is feeling the effect of the decline in spot shipments to bathing-suit mills. The 1930 season is completed so far as spinners are concerned, and they must seek other fields to offset this. It is hoped that sweaters for fall will take this place, but up to present yarn deliveries to these mills have been disappointingly small. Jobbers and dealers talk of improvement after July 4.

Infants' goods manufacturers, having booked substantial goods orders within last week, have placed contracts with spinners to cover the taking 18s and 20s in 50s to 64s grade. These manufacturers have taken orders recently which they ordinarily should have received two months ago. This has made spinners late also. Deliveries to this trade are leading at this time, the bathing-suit trade being out of way for spot deliveries.

The men's wear season now coming to an end should have been larger than the previous one, since it covered the heavyweight lines which generally make larger volume. It has not proved so with spinners of mixtures, however; the average mill reports it a poor season from standpoint of volume, with the bulk of orders rushed through within a comparatively few weeks.

Largest men's wear mills in this section are running day and night at present in an attempt to get out shipments as wanted by their customers, who should have bought long ago. This is making it imperative for mixture spinners to make large and prompt shipments. At present specifications are good from the largest men's wear mills. This will continue only until the end of July, when spinners will await new season developments.

There has been price-cutting to book the largest orders placed this week, but no better nor worse in this respect than other recent weeks. Large knitting contracts are placed only where spinners are willing to sell at prices that their competitors figure below cost. This is less noticeable in weaving counts, which are selling to men's wear manufacturers on the basis of $1.70 for 2-30s, 64s mixes, but this is largely because these mills are mainly taking deliveries on old contracts.

No definite trend in prices is apparent, and spinners are making no changes in quotations. Medium wools are stronger, but this has had no effect on outerwear counts, which are quoted at $1.07½ for best 50s, and there is no longer talk of an advance. Spinners are endeavoring to hold to the current price level, but limited buyer interest is making this difficult, as is proved by cutting in next season bathing-suit yarn contracts.

◆Spun Silk Market Quiet But Confident

SPUN silk is quiet but confident. The market has entered its mid-summer lull, and there is little business being placed at any end. Broadsilk mills are beginning to cover for fall requirements, but only in a small way. Spinners are well satisfied both with the past season and with the fall and spring prospects. They look for spring business to start sometime within the next eight weeks.

The strong position of shantungs and their excellent showing all through spring and early summer, has convinced the spinners that these fabrics will be a big factor next year. Shantungs are finishing their season in a very firm position, and broadsilk weavers are thoroughly sold on the market possibilities of these lines; spinners say they have had some inquiries already regarding orders for 1931.

Woolen and worsted manufacturers show no interest, and no buying is expected from this group before the latter part of summer. Spinners are reconciled to five or six weeks of lull, which

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Manufacturers of Acetate, Nitro-Cellulose and Viscose Yarns of Distinction

would be the usual summer situation. Spun yarn stocks on hand are moderate and production is easing up, in line with the slackening of demand.

◆Thrown Silk Demand Spotty

THROWN yarn demand is spotty. A few throwsters are getting business, both from the hosiery and broadsilk trades, but the market generally is quiet. Hosiery knitters limit their buying strictly to grenadine and crepe twist yarns; trams are dead, and no pick-up is in prospect. Numerous thrown yarn mill men complain that they cannot move even their grenadines in sufficient quantity; they continue confident as to the future of grenadine yarn in hosiery, but expect the progress to remain slow.

The situation at this end is rather paradoxical, as some big hosiery mills report that they are behind in deliveries of grenadine twist hosiery because they cannot get sufficient yarn. However, that is not representative of the general market. Hosiery knitters are not selling grenadine numbers too actively, as a rule, and they are cautious about yarn commitments; many mills are still experimenting with the new yarn and are uncertain about its reception at the consuming end.

Thrown yarn prices remain low, with the exception of Japan organzine 2 thread special crack which has risen about 15c. Quotations do not mean much at present, as all buying is "price," and throwsters will make big concessions to effect turnover.

New Rayon Curtailment?

Trade May Reduce Output Further, Due to Slow Buying

INCREASED confidence among rayon underwear knitters thanks to improved demand for garments has spurred the call for rayon yarn, and the rayon market is in a slightly stronger position this week. June business in yarn has been better than was expected; the sales executives of several of the chief producing companies sprung a surprise upon themselves when they computed the June sales to date and found they were above those of May. This is significant, considering that June usually marks the beginning of the summer lull. The increased demand is restricted to the medium deniers.

Underwear producers are placing steady business in the 150 denier range; the increased consumption of the finer deniers by underwear mills which was expected to follow the recent price cut has not yet materialized, due to the uncertainty among knitters as to whether the consuming market is ready to assimilate the higher quality and higher priced product. However, both manufacturers and yarn producers are confident regarding the future prospects for the finer deniers in the underwear field. It is generally believed that this is not a propitious time to promote the new line, and that the real progress in this direction will not begin until industrial conditions have improved.

Weavers Buy 80c. Yarn

Underwear producers plus some hosiery mills are the only groups placing any real business with yarn companies. Weavers are hesitant; there are few spot orders and no futures being placed by this division. Continued purchase of 80c. inferiors by broadsilk mills also serves as a brake upon demand for standard yarns. The 80c. range is selling well in excess of normal output of inferiors, indicating that quantities of standard yarn are being sold as inferiors.

One feature which may bring a strengthening of the market is the new movement among producers toward further curtailment of output. This question was widely discussed during the week and reports were prevalent that organized effort toward a new reduction of production was under way. At present, rayon plants are producing only 70% of capacity, and it had been believed that no change would be made until early fall when increased demand was expected to call for 100% production. However, the persistent practice of making special concessions, plus the quiet market is forcing the producers to reconsider, and it is felt that further curtailment for the summer months might serve to strengthen the market. There is still a surprisingly large quantity of 80c. yarn being sold; this is supposedly sub-standard but much greater in quantity than the total of sub-standard yarn actually produced in the plants. The aggregate sales of 80c. yarn have dropped in the past four weeks, but the decline is not fast enough, the producers contend, and their standard yarns—especially those used by the broadsilk trade—are suffering in consequence.

◆Slight Improvement In Rayon Waste Call

INCREASED demand from the woolen and fibed industries has brought encouragement to the rayon waste market, and although prices remain very low, dealers look for improvement at that end before long, due to the movement of stocks. Orders from the woolen trade have been steady and of fair size and are helping substantially to clear up the accumulated stocks of waste on hand. Woolen manufacturers are much more confident than they have been, due to the passage of the tariff bill which affords increased protection to the woolen industry.

Top-makers are still quiet, and are buying little or no waste. Dealers in waste do not look for any pick-up at this end before August, but they expect demand from the woolen trade to increase steadily during the next six weeks. The waste trade is convinced that their prices are at bottom; the leading factors size up the outlook as follows: the summer will be slightly better than usual, but the manufacturing groups will continue very cautious until the latter part of August; prices will remain as is for some weeks, and then will gradually strengthen. It is agreed however, that this is a conservative view. Stocks of waste are considerable but sources are limited and a spurt in buying would soon bring a firming.

◆Wastes Carried Down by Falling Cotton

Boston.

THE cotton waste market has run into another disturbing situation featured by falling cotton prices and increased curtailment both North and South. If the curtailment meant only decreased output of wastes, there might not be much complaint, but, unfortunately, curtailment in the cotton industry indicates almost invariably a decreased consumption of spinnable wastes.

Liquidation of July cotton forced the price of spot well below 14c. This was not exactly of any assistance to waste sellers, and only confirmed the bearish opinions of consuming interests who, buying very spottily, continue to harp upon the certainty of lower values before the market attains a stable merchandising basis. There was a fair volume of strips sold throughout the week at varying prices according to quality, but all on the low side of market quotations. Prices of comber held up quite well, partly because of absence of any considerable supply in the back-ground, and further because of the extreme likelihood that there will be a very considerable curtailment of operations in the New Bedford fine-goods mills in the near future.

Values Are Nominal

There is a strong disinclination on the part of sellers to quote prices, and values are nominal at the moment. On 14c. cotton, a comber stock quoted at 85% would yield at price of 11.9c., but few holders of this material are willing to sell at such a low figure. There is less activity in the market than there was a week ago, consumers following their usual policy of staying out of a declining market. Talk of 10c. cotton is heard

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Formaldehyde reacts with phenol, cresol, urea, etc., to produce the synthetic resins which are finding so many uses.

Formaldehyde is a raw material in the manufacture of dyes. It is also the active ingredient of embalming fluids.

In common with most aldehydes, Formaldehyde forms bisulphite compounds. It reacts directly with ammonia to produce Hexamethylenetetramine. It is a powerful reducing agent. These properties are utilized in forming useful chemical compounds for the textile and rubber trades.

Formaldehyde polymerizes under certain conditions to form Paraformaldehyde, used where the presence of water in any substantial quantity is objectionable.

R&H began producing Formaldehyde at Perth Amboy in 1903. For a number of years our product has been known to the trade as "P.A.C. Brand Formaldehyde Solution." Because of its uniformly high quality, low acidity and freedom from impurities, P.A.C. Formaldehyde is recognized as the standard.

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New York, N. Y.

in some quarters, but is not taken seriously. Threads, which have been a firm feature in the market in recent weeks, have suffered somewhat on the cotton decline. Demand from the bedding trades continues to run to low-grade, cheap materials.

◆Noil Situation Regarded Promising

BOSTON.

THE passage of the tariff with higher duties on noils has strengthened the market position of these commodities, but demand continues spotty with consumers following their usual policy of cautious buying, mostly confined to immediate needs. Confidence in the future of the market is on the gain. Signs of stiffer wool market are regarded with approval, and most traders believe that the second half of the year will see a good noil market. Prices are very steady for all good noils, and dealers are optimistic regarding prospect of the market during the next few weeks. Prices are unchanged from the first of the month on white wool noils. Importers who in recent weeks have brought in some substantial quantities find themselves in possession of stocks relatively low priced, as compared with any imports likely to be made in the near future.

CASHMERE NOILS ARRIVE

There arrived in this city just before the revised tariff went into effect the largest single consignment of cashmere noils for year to date: 17 bales or approximately 8,000 lb. This high-priced specialty material, quoted on the street at $2.50 to $3.00 a lb., pays only the same duty as a cheap wool noil. The influence of new tariff in preventing or restricting imports of such specialties as camelhair or cashmere noils will be negligible.

FOREIGN NOIL MARKET

The foreign noil market during the past month firmed up considerably, higher prices on choice noils being registered on the Continent and Great Britain. Bradford is hopeful of new business with the United States in the near future.

◆Substitute Market Evaluating Tariff

BOSTON.

BUSINESS in reworked wool is not showing any expansion, and until the season is a little further along worsted manufacturing, although far from busy, is likely to lead in the wool industry. Business received to date from overcoating manufacturers is said to be disappointing. Recovered-wool men are not directly interested in the revised tariff, because the amount of recovered wool and mungo imported into the United States has been negligible for years. The probability, however, that the several foreign old-knit stocks, white knits perhaps in particular, are likely to be shut out of the country, is a matter of importance.

A KNOCK-OUT TO RAGS

The passage of the revised tariff placing a duty of 18c. a lb. upon all imported woolen rags would seem to have dealt a knock-out blow to the rag-importing trade with Germany and Great Britain. The large imports which have occurred in recent years in knit and similar stocks costing around 20c. per lb. in the foreign market will come to an end, it is said. Only on the high-priced white clips is the import business likely to maintain itself, and that only with difficulty.

Rag importers who have fair quantities landed no doubt feel gratified at the turn of affairs, and yet their elation will be short lived, because it seems a foregone conclusion that the high tariff rate will restrict importing under the new tariff to the purchasing in foreign markets of restricted quantities of high-grade, high-priced clips. The domestic grader will probably get higher prices for his rags when the mill demand returns to normal, but whether he will make any more profit than previously is seriously open to question, inasmuch as the packers of mixed rags will undoubtedly ask higher prices.

SPOT THREADS FIRMER

Spinning wastes are firm to higher on the passage of the tariff. Importers have now in their possession fairly substantial quantities of thread wastes that are relatively low priced when compared with what further imports plus the higher duty would cost at this time. All that is now needed is a little brisker mill demand, and this seems to be in the offing. The higher rate of duty is not likely to restrict imports of white spinning wastes to any considerable degree. The output from our worsted mills year by year is always too small to meet the demand from the woolen branch of manufacturing.

Cotton Rallies Fail to Hold

Crop Progress Is Good; July Liquidation a Factor

THE rallies which followed the mid-June decline to approximately 12.59 for October contracts was checked by a renewal of near month liquidation and more or less general scattered selling of new crop positions after a recovery of some 70 to 80 points. The appearance of higher temperatures in the South encouraged optimism over coming crop prospects, while weakness in grain and stocks, as well as the liquidation of July, had an unsettling influence on sentiment. Prices sold back to about the previous lows before the end of the week, while July contracts, which had rallied from 13.20 to 14.01, broke to the 13c. level on the first notice day.

According to early estimates the notices issued on Wednesday against New York contracts including those for delivery at Savannah represented about 117,200 bales, while notice for about 14,000 bales was issued at New Orleans, making a total in the two markets of about 131,000 bales. Representatives of the cooperative interests here stated they were stopping the July notices and would continue to do so as rapidly as they were presented, until they had received all the cotton they required. There was, of course, uncertainty as to just how much would be needed to liquidate the July position, but some further notices were expected before the end of next month.

CROP PROSPECTS GOOD

While the central belt is said to need rain, drouthy conditions have not continued long enough to cause any serious anxiety. Otherwise the crop is believed to have made very good progress for the past week or ten days, and the trade is looking forward to the probability that end-June condition figures will be well up to, or possibly above, the ten-year average.

There does not appear to have been much change with reference to the acreage. Figures on the probable decrease range from about 2 to somewhat over 3%, and probably average not far from 2½%. This would mean about 45,800,000 acres under cultivation which, with an allowance of 3% for abandonment, compared with the actual of 2.7 last year, and with an average yield per acre, would mean a crop of about 14,350,000 bales.

YEAR'S COTTON CONSUMPTION

This year's world's consumption of American lint cotton is not now expected to exceed 13,500,000 bales, while the world's carry-over at the end of this season is expected to be in the neighborhood of 5,800,000 bales. Ideas as to actual world's consumption for the coming season are, of course, dependent upon the development of trade, but, as a tentative proposition, traders seem doubtful whether it will materially exceed 14,000,000 bales, and feel that a revival must soon make its appearance to justify much higher figures. On the basis of present data, therefore, the market is evidently figuring that the prospect is for sufficient supplies; but dete-

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rioration in the crop and improvement in trade may cause a very radical change of sentiment during the summer and autumn.

INVESTMENT BUYING

On declines below the 12¾c. level, many in the trade are inclined to feel that cotton is approaching an investment basis, and there have been reports of inquiries for forward shipments extending a year or two ahead. It is not clear that much business has been done, but trade buying has been a little more in evidence on the declines, and would seem in line with the tradition that cotton bought at the low levels of May and June is likely to show a profit on crop scares during July and August. The first Government report on coming crop prospects will be issued on July 8th, but will give only the acreage estimated under cultivation as of June 25th. The first Government report on condition and yield prospects is scheduled for publication on August 8th. Meanwhile reports from the cotton goods trade and mill centers generally afford no encouragement for the buyer of cotton futures, and it may be that it will require either an actual setback to the crop or decided improvement in trade to carry advances much further than those which might result from corrections of the technical position.

●

BOSTON.—Business in the several New England cotton centers has been confined largely to purchasing for immediate needs, mostly in small lots and at low prices. The extra staples have been available at concessions. Shippers and merchants have made no attempt to force sales, but as the July premium over new crop futures declined relatively, mill interest became larger, though, in the aggregate, quite subnormal. There is no incentive for cotton manufacturers to buy extensively in old crop cotton at a time when the most drastic curtailment in years is proceeding, and the current price of cotton represents manipulation on a large scale rather than a true economic value determined by supply and demand.

Limited buying of short cotton was reported at close prices. Middling inch cotton was said to have been picked up in tire yarn circles as low as 100 on, but the more common sales level was 125 on July. Middling 1 1/32 in. sold in a small way around 150 on July and up to 165 on, while middling 1 1/16 in. was bought in odd lots between 175 and 200 on July. In neither of these types was there any great quantity of cotton available. Despite a 7c. tariff on foreign staple cotton, there was practically no interest or activity reported in Egyptians.

Domestic and foreign spinners are showing more buying interest in new crop cotton for shipment during the fall and early winter. They are attracted by the lower prices prevailing and the necessity of buying additional cotton, even if they do not increase current spindle activity. Southern mills in a number of instances are reported trying to cover their requirements ahead for two or three years at flat prices, while northern spinners are disposed to regard the present prices as attractive.

●

MEMPHIS, TENN., June 23—While sales of cotton by first hands in this market were the smallest of any week this season, merchants report slightly improved inquiry from mills. The staple association reports several sizable orders booked for shipment during July and August, but no one makes claim to any appreciable amount of new crop business. Sales here were only 1,448 bales compared with 9,476 bales the same week last year.

Light sales compared even with recent weeks are due in part at least to cessation of demand for tenderable cotton for delivery on contract, which demand was stimulated by the July premium. The July premium has been so greatly reduced, with many of the opinion that it will be wiped out altogether, that the contract market no longer looks attractive as an outlet for spots. Limited demand is matched by limited offerings, owners taking the view that prices have reached a level at which little risk is involved in the further carrying of cotton. Practically no cotton was offered on the break early in the week when new contract Octobers, New York, touched 12.59, only 13 points above the season's low on October in 1926. Export demand has about reached the vanishing point. Such demand as there is is coming from southern mills and is confined to small orders for low middling to strict middling ⅞ to 1 1/16 in. and a few low grade staples, the latter at fixed prices.

While there is some little domestic inquiry for new crops, price ideas are so widely at variance that such inquiry is productive of no important volume of business and is generally regarded as for the purpose of keeping in touch. While feeling is more hopeful, little is expected in the way of revival of spot demand until the July position is out of the way.

Temperatures over the cotton belt during the week were favorable. The crop averaged good progress in the Atlantics, fair progress in the western belt and in Alabama but progress in the central belt, due to drouthy conditions, was not satisfactory.

Cheap Wool Breeds Confidence

Raw Material Moves Slowly Against Buyer in Steady Market

BOSTON.

CONFIDENCE is on the gain in wool circles generally and the situation is showing sufficient basic improvement to warrant the expectation that the second half of the year will witness a generous expansion accompanied by more profitable margins. Wool taken over by the trade from original hands has been acquired on a safe basis and will all be wanted as the months go by. Wools are now generally recognized as both relatively and actually low priced, and for domestic merino wools there continues to be a steady mill demand. A similar movement of merino wools is being seen outside the United States, these qualities passing into general consumption for year to date much more readily than had been anticipated. Merino stocks in European consuming centers are below normal for this period of the year, and the general demand is favoring fine goods.

The price tendency is against the buyer; this is as yet a tendency only, but will later become an actual fact, according to good opinion. The goods market is not especially active, and, as mills are anxious for new business, a slight easiness prevails. The wool industry is still operating on narrow margins, but has recently been buying a considerable quantity of wool in advance of its actual needs on the assumption that wool on current level is very cheap and the probability that there will be a gradually rising market in raw material during the latter half of this year.

NEW CLIP MOVEMENT

The new clip is moving rapidly out of original hands and some merchants claim that the independents have actually secured a larger amount of the 1930 clip than has the marketing corporation. Movement has been particularly energetic in Texas, which is the leading State in wool production. One or two houses on Summer Street have been particularly successful in buying these wools. The general situation is without change from the previous week. Owing to competition for the new clip it may be difficult to realize profits on late purchases unless the Boston market shows a more definite movement to a higher level. Recent developments have, nevertheless, been encouraging to the regular wool houses, some of which claim to have sold larger amounts of wool for the year to date than in the similar period of last year.

Now that the tariff bill is passed, the wool trade is experiencing a feeling of

relief, although at no time during the past 18 months has the domestic side of the trade been particularly disturbed. The effect of an additional 3c. per lb. clean content is not likely to have much influence in restricting wool imports. The United States produces approximately 60% of its consumption and the balance of necessity must be imported whatever the duty imposed.

An outstanding feature of the revised tariff is that three distinct classes of wool used for clothing purposes have been instituted. The wool tariff in brief is as follows: wool in the grease, 46's quality and above, 34c., per lb., clean content; wool in the grease, 40 to 44s quality, containing not over 10% of 46s in each bale, 29c. per lb., clean content; wool in the grease up to 40s quality, containing not over 10% of 44s in each bale, is free for carpet manufacturing, but if used for clothing purposes pays 24c. per lb., clean content.

Doubt August Silk Pick-up

Chance of Summer Firmness Lessens, as Prices Drop Again

RAW silk continues soft, with prices largely a matter of what is offered by the buyer. Quotations dropped 5 to 7c. during the week, and even that cut failed to encourage buying. Broadsilk weavers normally should be buying now for production of fall lines, but they are delaying commitments, due to uncertainty as to August-September trade developments. Silk traders and importers are decidedly pessimistic, and complain that they are unable to do business at any figure which would cover their own overhead. Such orders as are placed, are on a strictly price basis, and are invariably small, being limited to fillers for immediate needs.

Importers see no improvement for a possible two months. The chance of mid-August pick-up is now lessening, and the feeling is that real fall business may not develop until after Labor Day.

The week opened with futures at record lows for the year, and buying was indifferent. A slight firming registered June 19, and the undertone was stronger, but it failed to last; June 20 found futures again weak, and all business lagged. Spots are in a somewhat better position, but here too prices were nominal. The week-end found spots steady, with futures softer. Monday was erratic; some firms cut futures prices, but others held firm. Tuesday brought a slight confidence, and both in Japan and New York trading was steadier, with futures moderately firm. There was little material change, either in prices or sentiment, throughout the week.

Three dollar raw silk became an actuality Wednesday when a number of positions sold at that level on the National Raw Silk Exchange, the market witnessing record new low levels in all positions.

Good Call for Grenadine Hosiery

Mills Behind in Shipment Due to Shortage of Yarn

RETAIL call for grenadine twist hosiery has registered considerable increase and store buyers are more confident regarding their commitments. Jobbers also manifest greater interest. Knitters this week reported a spirited demand for their leading dull-luster lines, in the $1.50 to $1.95 range. Several outstanding companies are behind in deliveries, and are asking for several weeks' leeway on all orders.

The delay is due to difficulty in getting grenadine twist yarn. The limited production of this yarn is disproportionate to the demand created by the new hosiery market, and knitters say they could sell considerably more grenadine twist hosiery if they had the thread. The activity in buying is spotty, however; some producers of the dull-lusters are still dissatisfied with the movement of these numbers.

Confidence regarding the prospects of the grenadine yarn stockings is gaining slowly. An interesting feature of this new line is that it is not leaping ahead, as short-lived vogues usually do, but seems to be building up on a steady constructive basis. This trend has encouraged knitters to forecast a more or less permanent demand, but they agree that it is still too early to shape production schedules on this basis. Knitters said this week that they expected the grenadines to continue their progress through this season. Whether the demand will get enough impetus to carry it into next year is a moot question.

"Bare leg" interest is so light as to be negligible. The current color preference is divided among a very wide range of light colors; there is none of last year's rush for sunburn shades, these tones being secondary. Interest centers on such light colors as green-pink, ivory and flesh.

There is no real improvement in the tone of the market. Orders are light and producers have difficulty in getting their prices, the one exception to this rule being grenadine twist hosiery.

Half-hose is in fair call, the demand being mostly for socks made to retail at 25 and 35c. Producers of 50 and 75c. lines complained of indifference both among jobbers and retailers. There is a fair amount of spot business being placed, but most of it is on a strictly price basis.

◆Bathing-Suits Still Active

OUTERWEAR buying interest continues to center on bathing-suits and rayon polos. The last week has brought a surprising amount of bathing-suit reorders, and mills look for steady buying for some weeks. The call for women's suits is divided between high colors and blacks and navies, all of course, being sun-back model. Men's speed suits in conservative colors are stressed in reorders. Despite the pressure of buying, most mills are able to make spot shipment. Here and there a week's leeway is asked, but the old story of requiring several weeks for delivery no longer holds. Mills which had exceptionally heavy advance business now are only units declining spot business.

The whole tone of the bathing-suit market is satisfactory. Sales to date have been excellent; the volume has well surpassed that of last year, and prices are steady.

Rayon polos also move steadily, but mills are catching up with orders. The bulk of the trade now is making spot shipments. Much interest centers about the new long-sleeved polo shirts which have just made their appearance as a fall line. These have sold only lightly so far, but the manufacturers are confident that they will prove a big line within the next few weeks.

Producers of fancy sweaters were encouraged this week, by a moderate upcurve in demand. Fancy sweaters are still far behind normal and it is doubtful if they will catch up. The trade is looking for an active July, which would help to compensate for their discouraging season. Heavyweights are steady; there is a moderate trend toward future commitments. As a whole, however, heavyweights are behind this time last year.

◆Steady Demand for Light Underwear

DEMAND for lightweight knitted underwear has improved and numerous of the larger mills are asking time on deliveries. The call is not yet sufficient to balance up for the season's poor start, but it has done much to encourage knitters.

Cotton athletic shirts and shorts are

moving spiritedly; orders are plentiful, though most of them are small and for immediate shipment. Rayon underwear also has improved, and demand is steady. One mill reported a high-pressure volume demand call for rayon garments, stating that jobbers were buying rayon pullover shirts and shorts, made to retail at $1 per garment. The bulk of the current rayon business, however, is below that figure. Some mills are enjoying a quick turnover in garments which retail at 50 to 75c.

FALL PROSPECTS DOUBTFUL

Sentiment regarding fall prospects is hesitant. Knitters are less confident now about August bringing a sharp upturn in demand. The feeling is that the fall improvement will not be so speedy as was first expected; several factors interviewed this week said they doubted that heavyweights would show any real pick-up before Sept. 1. Heavies are slow at present. Some mills which enjoyed a good heavyweight call in May, report a steady dropping-off in demand. Reorders are coming in very slowly.

◆Tropicals Lead Wool Goods Interest

WOOL goods interest has been spotty for the last several days and orders have shown a declining tendency. Business last week was confined mainly to tropicals and duplicates of fall men's wear fabrics, particularly in the popular priced range.

TROPICALS TO OPEN JULY 7

Formal openings of tropical lines are expected during the week of July 7, although customers have been inspecting showings for some time. According to reports, a good quantity of early business has been placed. All statistical signs point toward a good season for the makers of summer fabrics. Spot goods in mill hands were well cleaned out during the early season hot spell, and garment stocks in retail establishments are light. Also it does not seem likely that there will be any drastic price slashes such as occurred at last year's openings and during the pre-season selling a year ago.

STOCKS ARE HELD DOWN

The stock situation throughout the general market is in a healthy state, with mills keeping production close to an order basis. The few mills that have received the bulk of current business are running double shift in many instances, but the majority of producers are confining operations to three or four days a week.

Overcoating business continues to come in slowly. In a number of cases, manufacturers state that hesitancy on their part has been caused by the uncertain credit condition of many of their customers.

Greater activity in the women's wear division is expected after the fashion show of the Garment Retailers of America on July 15. This event is expected to crystallize retailers' opinions as to the type cloths most favored by fashion authorities.

Broadsilk Buyers Hesitant

Fall Broadsilks Move Slowly But Gain

BROADSILK demand for fall is beginning slowly to crystallize, but cutters and piece goods buyers are still in hesitant mood. Some of the larger mills report active ordering, and a few already have a substantial amount of fall business on their books; but the trade as a whole is playing a waiting game. The next two months are expected to be progressively better, with each week stronger than the one before, until mid-August when fall deliveries will be well under way.

Fall prospects are considered good, though the trade is cautious about committing itself. Many mills were badly hit by the unfavorable conditions of the first half, and these firms are not inclined to be over-optimistic regarding the outlook.

CANTONS IMPORTANT FOR FALL

Current buying for August-September shipment continues to accent cantons. Canton crepes, both plain and printed, are in the lead, and mill men believe this line will grow more important in the next few weeks. Small design prints in several shades of brown, green, red and blue, are given preference in the early orders.

Retail buyers are coming to the New York market in good numbers, and are responsive to the overtures of the salesmen. The retailers report that their market is still soft, but that the outlook for fall is more satisfactory.

VELVETS TO COME BACK?

The steady increase in demand for fall velvets suggests that both cutters and retailers may stress them in their July-August orders. Brown velvets are important, both in transparent and chiffon weight. The lower prices serve as an inducement, and the buyers are hopeful that velvets may do better than they did last year. One firm of broadsilk weavers asks $3.85 for attractive high-grade velvets which sold at $5.00 last year. The call for chiffon velvet is quite spirited, considering this is the off-season, and some mills reported a sold-up condition on a popular-priced chiffon velvet.

METALS, SHANTUNGS, CHIFFONS

Metals improve slowly, but it is still too early to look for any real buying. Shantungs are dying hard; there is plenty of spot demand for shantungs and mills are kept active in making shipments; the decline in this call was forecast some weeks ago, but it has not yet materialized. Mill men are convinced that shantungs will be a big line in 1931. Chiffons are cleared, with the exception of a few remnants.

◆Cottons Paving Way for Improvement

COTTON goods buying shows no tendency toward greater volume, but leading factors can see a degree of improvement for the month of June. Sales to date have exceeded those of May and production has been curtailed considerably. The market is not materially better because of these two facts, but from a statistical standpoint the downward trend of business has been checked. While there are no indications of an immediate betterment in the technical position of the industry, the ground work has been laid. The general run of mills are now in a position where they can show progress once business picks up.

Prices have been easing constantly and are still a sore point. Profit margins, or more correctly loss margins, remain about the same, due to similar declines in raw cotton as well as goods quotations. In certain of the heavyweight fabrics the spread is somewhat more favorable for mills, while on the lighter weight cloths the differential has become worse.

A great many mills are not anxious for orders at current figures and are more or less out of the market. On the other hand, there are several mills constantly pressing for additional business. With a comparative scarcity of orders this influence is sufficient to keep prices at a depressed stage. The standard cloths have been the greatest sufferers in this respect. Consumers have expressed a willingness to purchase fair sized quantities of standard print cloths for late fall delivery at current levels, but these bids have been almost universally declined.

Burlaps Slow at Easier Prices

Burlap futures at mid-week continued to decline under heavy selling pressure.

On the actual market prices were unchanged from the previous day with little trading reported. Little interest was shown on last quarter goods.

The 8 oz. 40s for spot and afloat were 4.80-4.85c.; June shipments, 4.85-5.00c. The 10¼ oz. 40s for spot and afloat were 6.10-6.20c.; June shipments, 6.15c.

QUOTATIONS

at close of business, June 25, 1930
Prices cover average qualities unless otherwise stated

Cotton Goods

	June 25	June 18	June 26 1929
PRINT CLOTHS			
27 -in., 64x60, 7.60	4c.	4–4⅛c.	4⅛c.
38½-in., 64x60, 5.35	5¼c.	5¼–5⅜c.	7⅛c.
39 -in., 68x72, 4.75	6–6¼c.	6¼–6⅜c.	8–8⅛c.
39 -in., 72x76, 4.25	7¼–7½c.	7½c.	9⅛c.
39 -in., 80x80, 4.00	8c.	8¼c.	10c.
BROWN SHEETING			
36-in., 56x60, 4.00...	7 –7⅛c.	7⅛–7⅛c.	8⅛c.
36-in., 48x48, 3.00...	8½–8⅝c.	8½–8⅝c.	10–10⅛c.
37-in., 48x48, 4.00...	6⅜–6½c.	6½–6⅝c.	7½– 7⅝c.
PAJAMA CHECKS			
36½-in., 72x80, 4.70.	6⅜c.	6½–6⅜c.	8½–8⅝c.
36½-in., 64x60, 5.75.	5⅜c.	5½–5¼c.	7 c.
MISCELLANEOUS			
Drills, 37-in., 3 yd..	8½c.	8½c.	10⅜–10½c.
Denims, 2.20.....	15c.	15c.	17c.
Tickings, 8 oz.....	18–19½c.	18–19½c.	22–23½c.
Standard prints.....	8 c.	8 c.	9 c.
Eastern staple ginghams, 27-in.....	10c.	10c.	10½c.

Cotton Waste

Peeler comber	11½—12½
Peeler strips	10½—11½
Sak. comber	10½—11½
Choice willowed fly	5 — 6
Choice willowed picker	4 — 5
Sak. strips	13 — 14
Linters (mill run)	3 — 3½
White spooler (single)	8½ — 9½

Cotton Yarn

(Carded yarn quotations are nominal)

CARDED—(Average Quality)

Double carded 2c.-4c. higher, according to quality

SINGLE SKEINS OR TUBES—(Warp Twist)

4s to 8s...	$0.23½–.24	20s.....	$0.26
10s.....	.24 –.24½	24s.....	.28½– .29
12s.....	.24½– .25	26s.....	.29½– .30
14s.....	.25 –.25½	30s.....	.30½– .31
16s.....	–.25½	40s ex. qual.	–.44

TWO-PLY SKEINS AND TUBES

8s-2.....	$0.24 –.24½	26s-2.....	$0.29½–.30
10s-2.....	.24½–.25	30s-2.....	.30½–.31
12s-2.....	–.25	36s-2.....	.37 –.37½
14s-2.....	–.25½	40s-2.....	.38½–.39½
16s-2.....	.25½– .26	40s-2 hi b'k	.42 –.44
20s-2.....	–.26	50s-2.....	.48 –.49
24s-2.....	–.28½	60s-2.....	.55 –.56

SINGLE WARP

10s.....	$0.24 –.24½	24s.....	$0.29 –.29½
12s.....	–.24½	26s.....	.30 –.30½
14s.....	–.25	30s.....	.32 –.32½
16s.....	.25 –.25½	40s ex. qual.	.44 –.45
20s.....	.25½–.26		

TWO-PLY WARPS

8s-2.....	$0.24½–.25	24s-2.....	$0.29½–.30
10s-2.....	–.25	26s-2.....	–.30½
12s-2.....	.25 –.25½	30s-2.....	.31 –.31½
14s-2.....	–.25½	40s-2 ordin.	.39 –.40
16s-2.....	–.26	50s-2.....	–.49
20s-2.....	.26 –.26½	60s-2.....	.56 –.57

8s-3 and 4-ply skeins and tubes; tinged, 20-21; white, 24½; waste, 19-20

HOSIERY CONES (Frame Spun)

8s.....	$0.23½–.24	22s.....	$0.27½
10s.....	–.24	24s.....	–.28½
12s.....	–.24½	26s.....	–.29½
14s.....	–.25	30s tying.....	–.30½
16s.....	–.25½	30s reg.....	.31½–.32
18s.....	–.26	30s ex. qual..	.34 –.34½
20s.....	–.26½	40s.....	–.40

COMBED PEELER—(Average Quality)

TWO-PLY—(Knitting Twist) Cones

20s-2.....	$0.41 –0.42	60s-2.....	$0.60
30s-2.....	.45 – .46	70s-2.....	.69 – .71
36s-2.....	.46 – .47	80s-2.....	.81 – .82
40s-2.....	.47 – .48	90s-2.....	1.02 –1.05
50s-2.....	.53 – .54	100s-2.....	1.20 –1.25

WARPS, SKEINS AND CONES

TWO-PLY—(Warp Twist)

20s-2.....	$0.42 –0.43	60s-2.....	$0.61 –0.62
30s-2.....	.46 – .47	70s-2.....	.71 – .72
36s-2.....	.47 – .48	80s-2.....	.82 – .83
40s-2.....	.48 – .49	90s-2.....	1.04 –1.07
50s-2.....	.54 – .55	100s-2.....	1.22 –1.25

SINGLES

12s.....	$0.34½–0.35	30s.....	$0.44 –0.44½
14s.....	.35 – .35½	38s.....	.46½– .48½
16s.....	.35½– .36	40s.....	.48 – .48½
18s.....	.36 – .36½	50s.....	.52 – .52½
20s.....	.37 – .37½	60s.....	.60 – .61
24s.....	.39½– .40	70s.....	.70 – .71
28s.....	.42½– .43	80s.....	.82 – .83

MERCERIZED CONES—(Combed, Ungassed)

26s-2.....	$0.59 –0.61	90s2.....	$1.37–$1.40
30s-2.....	.60 – .62	100s-2.....	1.67 –1.70
36s-2.....	.63 – .65	120s-2.....	2.07 –2.10
40s-2.....	.65 – .66	30s.....	– .75
45s-2.....	.67 – .70	40s.....	– .80
50s-2.....	.69 – .72	50s.....	– .85
60s-2.....	.77 – .79	60s.....	– .90
70s-2.....	.91 – .94	70s.....	–1.05
80s-2.....	1.04 –1.07	80s.....	–1.25

Cotton Prices and Statistics

COTTON STATISTICAL DATA

(Fluctuations of Futures)

	Closed June 19	For Week High	For Week Low	Closed June 25	Net Change
June.....	13.74	13.84	13.38	.....	.....
July.....	13.85	14.01	13.00	13.34	—.51
August....	13.35	13.50	12.75	12.90	—.45
September.	13.40	13.60	12.85	13.00	—.40
October....	13.42	13.59	12.85	13.04	—.38
November..	13.49	13.62	13.06	13.10	—.39
December..	13.60	13.73	13.00	13.19	—.41
January....	13.61	13.78	13.01	13.16	—.45
February...	13.43	13.57	12.98	13.04	—.39
March.....	13.54	13.72	12.99	13.16	—.38
April.....	13.59	13.75	13.15	13.23	—.36
May.....	13.64	13.82	13.15	13.31	—.33

MIDDLING SPOT FLUCTUATIONS FOR WEEK

	New York	New Orleans	Liverpool
Friday, June 20.....	14.05	13.18	7.81
Saturday, June 21.....	13.70	12.81	7.76
Monday, June 23.....	13.50	12.66	7.57
Tuesday, June 24.....	13.25	12.36	7.64
Wednesday, June 25...	13.45	12.63	7.47
Thursday, June 26....	13.80	12.85	7.64

SPOT FLUCTUATIONS AND STOCKS

Markets	June 18	June 25	Sales	Stocks This Week	Stocks Last Year
Galveston....	12.80	12.75	736	212,435	147,557
New Orleans.	12.74	12.63	2,278	398,670	155,675
Mobile.....	12.55	12.40	.....	13,615	19,904
Savannah....	12.71	12.44	40	93,592	23,187
Norfolk.....	13.13	13.00	857	52,565	46,493
New York...	13.70	13.45	200	226,791	167,897
Augusta.....	12.75	12.50	1,133	55,055	42,245
Memphis....	11.95	11.85	2,266	192,500	86,239
St. Louis....	13.00	12.25	.....	7,963	13,258
Houston.....	12.75	12.60	1,709	601,113	244,508
Dallas.....	12.60	12.15	555	.....	.....

BASIS MIDDLING

	Saturday, June 21	Saturday, June 14
10 markets average.....	12.59	12.85
Memphis.....	12.10	12.25

PREMIUM STAPLES

First Sales from Factors Tables at Memphis

Grade Strict Middling	Prices Nominal
1⅛-in.....	14.70—15.10c.
1 3/16-in.....	16.30—16.60c.
1¼-in.....	21.00—21.35c.

CURRENT SALES

	For Week	Prev. Week	Week Before
Memphis total.....	1,448	2,594	3,466
F.o.b. included in total	1,123	2,045	2,779
10 markets.....	10,889	9,595	11,958

MEMPHIS RECEIPTS, SHIPMENTS, ETC.

	For Week	Last Year	Year Before
Net receipts.....	5,117	1,175	1,546
Gross receipts.....	9,586	3,910	7,476
Total since Aug. 1, net.	936,809	857,329	662,810
Shipments.....	116,740	14,701	15,746
Total since Aug. 1.....	1,809,704	1,787,236	1,436,157
Total stock.....	199,166	89,526	119,853
Decrease for week.....	7,154	10,791	8,748
Unsold stock in hands of Memphis factors.....	32,438	5,753	.....
Increase for week.....	1,337	* 537	.....

* Decrease

AVERAGE PRICE APRIL-MAY SHIPMENT HARD WESTERN COTTON

	F. o. b. New England Middling	St. Middling
1 1/16 in.....	15 –15½c.	15½–15¾c.
1⅛ in.....	16 –16½c.	16¾–17 c.
1 3/16 in.....	17½–18 c.	18½– 19c.
1¼ in.....	23 –24 c.	24½–25½c.

Basis on New York, July, 13.34c.

DIFFERENCES ON AND OFF MIDDLING WHITE GRADES

	Dallas	Memphis	Montgomery	Augusta	Average
M. F.....	1.05†	1.00†	1.00†	1.00†	1.00†
S. G. M.....	.90†	.85†	.90†	.88†	.86†
G. M.....	.75†	.75†	.75†	.75†	.72†
S. M.....	.50†	.50†	.50†	.50†	.50†
S. L. M.....	.75*	.65*	.65*	.75*	.71*
L. M.....	1.75*	1.75*	1.50*	2.00*	1.73*
S. G. O.**....	3.00*	2.75*	2.50*	3.25*	2.88*
G. O.....	3.00*	2.75*	2.50*	3.25*	3.93*
YELLOW TINGED					
G. M.....	.50*	.25*	.50*	.50*	.55*
S. M.....	1.00*	.75*	1.00*	1.00*	1.05*
M.**.....	1.75*	1.25*	1.50*	1.50*	1.65*
S. L. M.....	2.50*	1.75*	2.25*	2.25*	2.32*
L. M.**.....	3.50*	2.25*	3.00*	3.00*	3.22*
YELLOW STAINED					
G. M.....	1.50*	1.75*	1.50*	1.50*	1.55*
S. M.**.....	2.25*	2.50*	2.50*	2.50*	2.40*
M.**.....	3.00*	3.00*	3.50*	3.50*	3.20
BLUE STAINED					
M. G.**.....	1.75*	1.50*	1.75*	1.75*	1.70*
S. M.**.....	2.25*	2.25*	2.75*	2.75*	2.45*
M.**.....	3.00*	2.75*	3.75*	3.75*	3.23*

**Grades not deliverable on contract. †On Middling
*Off Middling.

EGYPTIAN COTTON

Alexandria Exchange, June 25		Change
July Sak.....	28.00	.....
August uppers.....	15.55	0.90

Wool

OHIO, PENNSYLVANIA AND WEST VIRGINIA
(IN GREASE)

Fine delne..	$0.30 –$0.31	¾ blood.....	$0.29 –$0.30
Fine clthg..	.23 – .24	¼ blood.....	.29 – .30
½ blood.....	.29 – .30		

TEXAS AND CALIFORNIA
(CLEAN BASIS)

Texas, 12 months	$0.73 –$0.75
California, Northern	.65 – .68

PULLED—EASTERN (CLEAN BASIS)

A.A	$0.75 –$0.78	B-Super	$0.57 –$0.60
A-Super	.63 – .68	C-Super	.53 – .55

MONTANA, IDAHO AND WYOMING
(CLEAN BASIS)

Staple fine	$0.75 –$0.78
Staple ¾ bld	.70 – .73
Fine and fine medium	.70 – .72
¾ blood	.60 – .63
½ blood	.55 – .58

MOHAIR—DOMESTIC

Best Carding	$0.38 –$0.40
Best combing	.53 – .55

MOHAIR FOREIGN (IN BOND)

Turkey fair, average	$0.28 –$0.30
Cape firsts	.28 – .30

FOREIGN CLOTHING AND COMBING
(CLEAN BASIS IN BOND)

Australia:	
70s	$0.65 –$0.70
64s	.53 – .55
58s-60s	.46 – .48

(IN GREASE)

Montevideo:	
58-60s	$0.25 –$0.26
56s	.25 – .26
50s	.23 – .24
Buenos Aires:	
4s, 40-44s	$0.22 –$0.23
5s, 36-40s	.20 – .21

FOREIGN CARPET (GREASE BASIS IN BOND)

Aleppo	$0.30 –$0.31
China: Combing No. 1	.17 – .19
China Filling Fleece	.16 – .17
Szechuen ass't	.17 – .18
Cordova	.17 – .18
Scotch black face	.20 – .21
East India: Kandahar	.26 – .27
Vican'r	.28 – .30
Joria	.29 – .31

Worsted Yarns

ENGLISH SYSTEM WEAVING

2-20s, 36s	$0.92½–$0.95
2-24s, 40s	1.02½– 1.05
2-26s, 44s	1.10 – 1.12½
2-28s, 46s	1.15 – 1.17½
2-30s, 48s	1.20 – 1.22½
2-32s, 50s	1.25 – 1.27½

(Single yarns 5c. less than above)

2-36s, 58s	$1.35 –$1.40
2-40s, 60s	1.47½– 1.50
2-40s, 64s	1.55 – 1.57½
2-50s, 66s	1.72½– 1.75
2-60s, 70s	2.15 – 2.20

ENGLISH SYSTEM KNITTING

2-20s, 44s in oil	$0.95 –$0.97½
2-20s, 50s in oil	1.07½– 1.10
2-20s, 56s in oil	1.17½– 1.20
2-20s, 60s in oil	1.32½– 1.35
2-20s, 64s in oil	1.40 1.42½
1-15s, 46s dyed	1.15 – 1.17½
1-15s, 48s dyed	1.17½– 1.20
1-15s, 50s dyed	1.20 – 1.22½

(Oil yarns 17½c. less)

FRENCH SYSTEM

1-20s, 58s	$1.22½–$1.25
1-20s, 60s	1.27½– 1.30
1-18s, 64s, Dyed	1.50 – 1.52½
1-26s, 64s	1.30 – 1.32½
1-30s, 60s, Warp	1.37½– 1.40
1-30s, 64s, Warp	1.42½– 1.45
2-30s, 64s, Fancy mixes	1.70 – 1.72½
2-40s, 64s, Zephyrs	1.65 – 1.70
1-50s, 66s	1.65 – 1.67½
2-50s, 66s	1.80 – 1.82½
1-60s, 70s	2.07½– 2.10
2-60s, 70s	2.25 – 2.30

FRENCH SPUN MERINO WHITE

1-30s, 50-50-58s on cops	$1.05 –$1.07½
1-40s, 50-50-60s on cops	1.20 – 1.25
1-40s, 50-50-64s on cops	1.22½– 1.25
1-40s, 50-50-64s Australian cops	1.30 – 1.35

Underwear mixes, 3c. additional.
Solid color, 35c. additional.

◆

Tops and Noils

TOPS—BOSTON

Fine (64-66s)	$0.98 –$1.00
Half-blood (60-62s)	.91 – .93
High ¾ blood (58s)	.83 – .85
Aver. ¾ blood (56s)	.80 – .83
Low ¾ blood	.78 – .80
High ½ blood (50s)	.73 – .75
46s S. A. and N. Z.	.65 – .70
44s S. A and N. Z.	.65 – .68
40s S. A and N. Z.	.63 – .65

TOPS—BRADFORD, ENG. (JUNE 19)

Fine (70s)	31½d	¾ bld. (56s)	21½d
Fine (64s)	28½d	½ bld. (50s)	18d
¾ bld. (60s)	26½d	Cross-bred (46s)	15½d
½ bld. low (58s)	23½d		

NOILS—BOSTON

Fine	$0.57–$0.60	High ½ bld..	$0.44–$0.47
Half-bld	.53– .55	Low noils...	.40– .42
Aver. ¾ bld..	.45– .48	Medium colored...	.40– .42
Fine colored	.46– .48		

Wool Substitutes

WOOL WASTE

Lap, fine white	$0.83 –$0.88
Lap, fine colored	.58 – .63
Hard ends, fine white	.65 – .68
Hard ends, ¼ blood white	.45 – .48
Hard ends, fine colored	.30 – .33
Hard ends, medium colored	.23 – .28
Card, fine White	.35 – .38
Burr, fine Carbonizing	.38 – .43

OLD WOOLEN RAGS (GRADED FOR MFRS.)

Merinos, Coarse Light	$0.06½–$0.07
Merinos, Fine Dark	.04½– .05
Merinos, Fine Light	.15½– .16½
Serges, Blue	.08½– .09
Serges, Black	.08 – .09
Serges, Red	.11 – .11½
Knit, White	.32 – .33
Knit, Red	.16 – .17
Knit, Light Hoods	.16 – .17
Worsted, Light	.05½– .06
Worsted, Blue	.08½– .09
Worsted, Black	.08 – .09

Silk Yarns

THROWN SILK (60 day basis)

Japan organzine, 2 thd. grand XX in skeins	$5.25
Japan organzine, 2 thd. sp. crack in skeins	5.10
Japan crepe, 3 thd. grand XX in bobbins	5.15
Japan crepe, 3 thd. sp. crack on bobbins	5.05
Japan crepe, 4 thd. crack on bobbins	4.90
Canton crepe, 3 & 4 thd. ns. 14/16 on bobbins	2.90
Tussah tram, 2 end on cops	2.00
Hosiery tram, 3 thd. Japan XXX	5.75
Hosiery tram, 4 thd. Japan, selec. gd. XX	5.25
Hosiery tram, sp. crack XX	4.50
Hosiery tram, crack XX	4.40
Hosiery tram, XX	4.30

SPUN SILK YARNS—(Terms: net 30)

40/2	$3.85	60/2	$4.20
50/2	4.05	62/1	3.00

Raw Silk

(60 day basis)
Prices Nominal

	Spot	New Season
Japan filature, grand XX, 13/15	$4.15	$3.50
Japan filature, sp. crack XX, 13/15	4.05	3.40
Japan filature, crack XX, 13/15	3.95	3.30
Japan filature, XX, 13/15	3.75	3.20
Japan filature, best X, 13/15	3.70	3.15
Canton filature, new style, 14/16	1.85	1.50
Canton filature, new style, 20/22	1.75	1.40
Tussah filature, 8 cocoon	1.55	1.20
Grand XX (Yellow) 20/22	3.40	3.00
Grand XX (White) 20/22	3.45	3.10
Sp. crack (Yellow) 20/22	3.40	2.95
Sp. crack (White) 20/22	3.40	3.00
Crack (Yellow) 20/22	3.30	2.80
Crack (White) 20/22	3.35	2.90

NATIONAL RAW SILK EXCHANGE

	Close June 18	For the Week High	For the Week Low	Close June 24	Net Chge.
June	3.35	3.40	3.25	3.34	—.01
July	3.21	3.21	3.11	3.14	—.07
August	3.13	3.31	3.07	3.12	—.01
September	3.11	3.20	3.06	3.08	—.03
October	3.11	3.20	3.06	3.08	—.03
November	3.10	3.17	3.07	3.07	—.03
December	3.10	3.20	3.07	3.07	—.03
January	3.11	3.20	3.07	3.08	—.03

June 18 to June 24—Total contracts, 438. Total number of bales, 4,380. Total approximate value, $1,752,000.

Domestic Rayon

VISCOSE PROCESS

Denier	Filament		First	Second
50	14		$2.30	$2.00
75	18		1.85	1.65
75	30		1.95	1.75
100	18		1.45	1.35
100	40		1.50	1.40
125	18		1.45	1.25
125	36		1.30	1.20
150	24		1.15	1.10
150	32		1.15	1.10
150	36		1.20	1.15
150	60		1.35	1.30
150	75		1.50	.....
170	24–27		1.15	1.10
170	60		1.35	1.30
200	30		1.05	1.00
200	32		1.10	1.05
200	60		1.30	1.25
300	44		.95	.90
400	72		1.10	.95
450	54		1.00	.95
600	72–96		1.00	.95
900	100–144		1.00	.95

NITRO-CELLULOSE PROCESS

Denier	First Qual.	Second Qual.	Denier	First Qual.	Second Qual.
35	$3.50	$3.25	125	$1.30	$1.20
50	2.25	1.90	140	1.15	1.10
75	1.85	1.65	150	1.15	1.10
100	1.45	1.35	160	1.15	1.10
			175	1.15	1.05

CUPRAMMONIUM PROCESS

Denier	Filament	Price	Denier	Filament	Price
15	25	$4.15	40	30	$3.15
25	25	3.65	52	30	3.00
30	25	3.40			

(Due to diversified offerings prices for higher denier are not listed.)

ACETATE PROCESS

Denier	Price	Denier	Price
45	$2.75	120	$1.90
55	2.55	150	1.60–1.85
75	2.25–2.70	200	1.55
100	2.00–2.45	300	1.50

Rayon Waste

Prices Nominal

Open bleached waste	–$0.22
Open unbleached waste	$0.18 – .20
Bleached thread waste (mfs.)	... – .12
Bleached thread waste (misc.)	.11 – .12
Colored thread waste	.08 – .10
Colored clips	... – .05

CONVERTED RAYON WASTE

Bleached tops	–$0.49
Unbleached tops	.... – .43
Bleached noils	.... – .18
Bleached garnets	.... – .18
Unbleached garnets	.... – .16
Colored garnets	.... – .14

Silk Waste

Kibizzo Kikai Grand XX	$0.85
Kibizzo Kikai Triple Extra	.92
Frison Grand Double	.90
Pierced Cocoons	1.12

Southern Mill Securities

(A. M. Law & Co., Spartanburg)

	Bid	Asked
Abbeville Cotton Mills	..	60
Anderson Cotton Mills	69	73
Arcade Cotton Mills	..	60
Arcadia Mills	..	240
Arcadia Mills, pfd.	100	102
Arkwright Mills	..	80
Augusta Factory, Ga.	..	20
Avondale Mills, Ala.	..	1050
Beaumont Mfg. Co.	250	300
Beaumont Mfg. Co. 7% pfd.	100	102
Belton Mills	..	25
Belton Mills, pfd.	..	80
Bibb Mfg. Co.	105	110
Bibb Mfg. Co. 6% pfd.	99	102
Brandon Corp., A	..	51
Brandon Corp., B	..	7
Brandon Corp., pfd.	83	87
Calhoun Mills	88	95
Chadwick-Hoskins Co. (par, $25)	10	13
Chesnee Mills	..	75
Chiquola Mfg. Co.	250	260
Chiquola Mfg. Co., pfd.	91	94
Clifton Mfg. Co.	99	103
Clinton Cotton Mills	250	280
Columbus Mfg. Co., Ga.	80	90
Cowpens Mills	..	35
D. E. Converse Co.	90	97
Dallas Mfg. Co., Ala.	..	70
Darlington Mfg. Co.	40	51
Drayton Mills	110	..
Dunean Mills	120	125
Dunean Mills, pfd.	100	102
Eagle & Phenix Mills, Ga.	..	65
Easley Cotton Mills, pfd.	55	65
Enterprise Mfg. Co., Ga.	..	100
Fairforest Finishing Co., serial notes	98	100
Florence Mills	50	55
Florence Mills, pfd.	99	102
Gaffney Mfg. Co.	..	35
Gainesville Cotton Mills, Ga.	150	160
Glenwood Mills	95	100
Gluck Mills	70	75
Gossett Mills	60	65
Graniteville Mfg. Co.	..	100
Greenwood Cotton Mills	400	..
Grendel Mills, pfd. (par, $50)	45	48
Hamrick Mills	..	100
Hartsville Cotton Mills	130	140
Hunter Mfg. & Com. Co., pfd.	88	92
Industrial Cotton Mills Co., pfd.	..	34
Inman Mills	120	130
Inman Mills, pfd.	100	..
Judson Mills, A, pfd.	103	106
Judson Mills, B, pfd.	99	101
King, John P. Mfg. Co., Ga.	80	90
Lancaster Cotton Mills	265	..
Laurens Cotton Mills	..	125
Limestone Cotton Mills	..	100
Lydia Cotton Mills, serial notes	99	101
Marion Mfg. Co., N. C.	110	117
Marlboro Mills	..	15
Mills Mill, pfd.	95	99
Mollohon Mfg. Co., pfd.	98	102
Monarch Mills	115	120
Musgrove Cotton Mills	27	35
Newberry Cotton Mills	110	113
Ninety-Six Mills	400	..
Norris Cotton Mills	..	45
Orr Cotton Mills	..	60
Orr Cotton Mills, pfd.	83	87
Pacolet Mfg. Co.	..	145
Pacolet Mfg. Co., pfd.	100	103
Panola Cotton Mills, Class A, pfd. (par, $60)	58	60
Pickens Cotton Mills	110	115
Piedmont Mfg. Co.	98	102
Piedmont Print Works (no par)	15	20
Piedmont Print Works, pfd.	60	70
Poe, F. W. Mfg. Co.	29	32
Riverside & Dan River Mills	13	15
Riverside & Dan River Mills, 6% pfd	75	80
Saxon Mills	..	75
Sibley Mfg. Co., Ga.	50	60
Southern Bleachery	18	20
Southern Bleachery, Pfd.	84	88
Southern Bleachery, serial notes	99	101
Southern Franklin Process	22	24
Southern Franklin Process, pfd.	98	101
Southern Worsted Corp., pfd.	88	92
Spartan Mills	155	..
Spencer Corp., serial notes	98	100
Union-Buffalo Mills	..	50
Union-Buffalo Mills, 1st pfd.	89	93
Union-Buffalo Mills, 2nd pfd.	45	48
Victor-Monaghan Co.	70	72
Victor-Monaghan Co., pfd.	112	117
Wallace Mfg. Co.	..	105
Ware Shoals Mfg. Co.	135	145
Whitney Mfg. Co.	..	40
Woodside Cotton Mills Co.	..	50
Woodside Cotton Mills Co., pfd.	42	45
Yarns Corp. of America, gold bonds	99	100

Textiles on N. Y. Exchanges

The following shows the movements of the leading textile stocks listed on the New York Stock Exchange and Curb for the week ended June 25:

	High	Low	Last Sale	Net Change
Adams Millis	28½	26½	27¼	+ ¼
*American Thread, pfd.	3¼	3⅛	3⅛	+ ⅛
American Woolen	12	11¼	11¾	+ ⅜
American Woolen, pfd.	33⅜	29¾	29¾	— 2
*Assoc. Rayon, pfd.	44⅞	43	43	— 2⅛
Belding-Hemingway	4½	3½	4½	+ 1⅛
Botany Mills, A.	3½	3	3	— ½
Cannon Mills	21½	20	20	...
Century Ribbon	4½	3⅞	3⅞	— ⅛
Collins & Aikman	20½	17¾	20¼	+ 1⅜
Consolidated Textile	1	⅞	⅞	— ⅛
*Courtaulds, Ltd.	10½	10⅛	10⅛	...
Duplan Silk	15	15	15	+ ⅜
Durham Hosiery, pfd.	47½	47½	47½	— 4½
*Fabrics Finishing	4½	4⅛	4⅛	— ⅛
Gotham Hosiery	10½	9	9⅜	+ ⅛
Industrial Rayon	97	85	87	—13½
Kayser, Julius	26½	24	24⅞	— ⅛
Kendall, pfd.	77½	77½	77½	+ ⅛
Mallinson	10½	7⅞	8⅜	+ ⅛
Mohawk Carpet	19	17	17	— 1½
Munsingwear	42	40½	40¼	— ¾
*Pepperell	91	89	89	— 3
Phoenix Hosiery	11	11	11	— 1
*Propper-McCallum	7½	7½	7½	— ⅜
Real Silk Hosiery	42½	34⅝	39¾	+ 4⅜
*Tubize Chat. B	8½	7	7	— 1½
United Piece Dye Wks.	25½	23	23	+ 1
Van Raalte	14½	14½	14½	— 2

*Listed on Curb.

N. Carolina Mill Stocks

(R. S. Dickson & Co., Charlotte, N. C.)

	Bid	Ask
Acme Spinning Co.	70	76
American Yarn and Processing Co.	..	80
Chadwick-Hoskins Co. (Par. $25)	9	12
Chadwick-Hoskins Co., 8%, Pfd.	99	101
China Grove Cotton Mills	101	107
Climax Spinning Co.	60	68
Clover Mills	..	25
Converse D. E. Co.	90	95
Crescent Spinning Co.	58	62
Dixon Mills	91	100
Durham Hosiery, 6%, Pfd.	42	50
Eagle Yarn Mills	62	75
Efird Mfg. Co.	80	88
Erwin Cotton Mills	..	188
Erwin Cotton Mills Co., 6%, Pfd.	92	97
Flint Mfg. Co.	..	85
Flint Mfg. Co., 7%, Pfd.	..	99
Globe Yarn Mills (N.C.)	..	20
Gray Mfg. Co.	..	82
Hanes, P. H. Knitting Co.	9	10⅛
Hanes, P. H. Knitting Co., 7%, Pfd.	96	101
Henrietta Mills, 7%, Pfd.	44	55
Imperial Yarn Mills	..	60
Linford Mills	65	76
Locke Cotton Mills Co.	..	76
Majestic Mfg. Co.	115	135
Mansfield Mills	65	82
Mooresville Cotton Mills	6	8
Mooresville Cotton Mills, 7%, Prior Pfd.	..	88
Myers Mills	..	76
Myrtle Mills	..	53
National Yarn Mill	54	65
Perfection Spinning Co.	60	70
Ranlo Mfg. Co.	..	115
Ranlo Mfg. Co., 7%, Pfd.	..	100
Roanoke Mills	65	..
Roanoke Mills, 1st Pfd., 7⅛%	91	96
Roanoke Mills, 2nd Pfd., 8%	91	97
Rosemary Mfg. Co., Pfd., 7¼%	98	..
Rowan Cotton Mills Co.	70	80
Seminole Cotton Mills Co.	..	76
Sterling Spinning Co.	60	78
Stowe Spinning Co.	62	77
Victory Yarn Mills Co.	39	50
Ware Shoals Mfg. Co., 7%, Pfd.	98	101
Winget Yarn Mills Co.	40	50
Wiscassett Mills Co.	180	190

New England Textile Stocks

Quotations at "Public Sale" are based on last sales at Boston Public Auctions and Boston Stock Exchange. Bid and Asked prices are latest quotations of leading Boston dealers.

	Public Sale	Bid	Asked
Am. Mfg. pfd.	68	61	66
Amoskeag	11	...	...
Arlington	23½	22	24
Associated Textile	36½	34	37
Bates	63	80	84
Berkshire Associates, com.	18½	17	20
Berkshire Associates, pfd.	70½	69	72
Bigelow-Sanford, com.	57	...	...
Boott Mills	120½	114	118
Edwards	80¾	80	85
Esmond, pfd.	102	100	102
Farr Alpaca	67	67	70
Hamilton Woolen	40	38	41
Hill	18	18	23
Indian Orchard	20½	20	30
Ludlow	136	136	138
Merrimack, com.	50½	49	53
Nashua, com.	32½	29	32
Nashua, pfd.	77½	71	73
Naumkeag	86	84	86
Newmarket	25½	20	25
Otis	49½	44	47
Pacific	20	...	...
Pepperell	94	90	92
Plymouth Cordage	82	75	80
York	8¼	8	10

Fall River Mill Stocks

(G. M. Haffards & Co., Fall River)

	Bid	Asked
Algonquin Printing Co.	325	..
American Linen Co.	..	..
Barnard Mfg. Co.	8	12
Berkshire (com.)	..	..
Berkshire (pfd.)	..	..
Bourne Mills	..	12
Border City Mfg. Co.	..	5
Charlton Mills	..	75
Cornell Mills	..	10
Davol Mills	..	6
Davis Mills	12	..
Flint Mills	16	..
King Philip Mills	..	..
Laurel Lake Mills (com.)	..	5
Lincoln Mfg. Co.	12	..
Luther Mfg. Co.	..	..
Merchants Mfg. Co.	28	..
Narragansett Mills	..	10
Parker Mills, com.	..	..
Pilgrim Mills	70	..
Richard Borden Mfg. Co.	2	5
Sagamore Mfg. Co.	..	70
Shove Mills	4	8
Stafford Mills	..	1
Stevens Mfg. Co.	..	39
Union Cotton Mfg. Co.	25	..
Wampanoag Mills	..	6
Weetamoe Mills	..	1

Textile Calendar

National Association of Waste Material Dealers, Organization Meeting of Wiping Cloth Division, Congress Hotel, Chicago, July 14-15, 1930.

•

Worsted Yarn Spinners' Annual Outing. Manufacturers' Country Club, Oreland, Pa., Sept. 24, 1930.

•

National Safety Congress, Textile Section, Annual Meeting, William Penn Hotel, Pittsburgh, Pa., Sept. 30-Oct. 1, 1930.

Ninth Southern Textile Exposition, Textile Hall, Greenville, S. C., Oct. 20-25, 1930.

•

Textile Division, A.S.M.E., National Meeting, Poinsett Hotel, Greenville, S. C., Oct. 22, 1930.

•

Southern Textile Association, Semi-Annual Meeting, Poinsett Hotel, Greenville, S. C., Oct. 23, 1930.

Survey of Knit Outerwear Machinery

(*Continued from page 33*)

had not more than two feeds. A comparison of the number of feeds possessed by circular machines with the proportion of normal working time they were in use indicates that, as one might expect, the more feeds a machine possessed, the more it worked.

These facts hint at a considerable variation in efficiency among the knitted-outerwear machines in use in Philadelphia, but they hardly provide definite answers to the questions which the survey set out to try to answer. They show a large percentage of fairly old machines, a large percentage of relatively idle machines, a large percentage of machines with cuts (needles per inch) which at the time of the survey produced a fabric which had become less popular than formerly, a large percentage of circular machines with not more than two feeds, a larger percentage of machines with relatively little flexibility as to the type of fabric and design they could produce, and other features in which, perhaps, many of the machines failed to equal the most modern machines of their type available. Conceivably, many of these machines should be replaced or, at any rate, rebuilt or equipped with special attachments. Possibly there should be some simplification of sizes.

When Shady Cloth Confronts the Wool Manufacturer

(*Continued from page 41*)

correctly laid to mixed filling or uneven weaving. I would like to mention one instance, however, in which a defect of this nature was not due to these familiar causes. The cloth in question was a worsted of about 14 oz. in weight. The warp was mostly white when woven, but there were fancy resist-dye colors every one-half inch or so. When the cloth was finished, it was found that, beginning about 15 yd. from the end of one cut, the resist colors had taken on dye for about 1 yd. Following this defect the cloth was satisfactory for a short distance, after which the resist colors had again taken on dye.

The finishers claimed that the yarns must have been different or they would not have behaved in this manner. I explained to them that, if the yarns were different, there would be knots in the warp threads at the beginning and end of each colored portion, showing that two different threads had been joined together at such places. Investigation showed that there were no knots. The real cause of the defects, as finally determined, was an excessive amount of crabbing, which had opened the pores of the wool and caused the fiber to take on dye. This was an instance in which, if the defective colors had run from side to side instead of lengthwise, mixed filling would have been blamed for the defect. We could not blame it on mixed warp because it would have been utterly impossible to cause changes in continuous threads by any manner of mixing.

Sometimes our warps are not dressed properly, with the result that they contain high or low sections. The unevenness resulting from such circumstances may be so slight as not to be noticeable until after the cloth is dyed and finished.

Show window at entrance to New York office of Tubize-Chatillon Corp., showing large variety of fabrics made from yarns of that company. The raincoat is particularly interesting.

Philadelphia Manufacturers Hold Outing

One of the largest outings in history of the Philadelphia Textile Manufacturers' Association was held June 25 at the Manufacturers' Country Club, Oreland, Pa. The weather was ideal and manufacturers representing every group in the association, weaving, knitting, cotton, wool, silk and rayon, were present. Sports were the attractions throughout the afternoon with golf matches occupying the center of the stage. Dinner was served in the evening when members were welcomed by the managing director of the organization, C. Marlin Bell. The occasion was the first the members have had to suitably welcome their new president, Colonel Millard D. Brown, who was elected to fill the unexpired term of the late Charles J. Webb.

The association golf tournament was won by James Hulton, Jr., with net 65; second low net won by J. S. Escott; third gross prize won by Walter Feely with 77.

Full-Fashioned Hosiery Workers Annual Convention

PHILADELPHIA. — First biennial and the 18th annual convention of the American Federation of Full-Fashioned Hosiery Workers was held this week at Knitters Hall, close to 90 delegates from various branches throughout the country attending the opening session Monday. This convention is regarded by officials of the organization as one of the most vital ever held in view of conditions in the full-fashioned industry.

Not only were important matters discussed, but during the first half of the week they took steps to revise their constitution which had become absolete in view of the negotiation of the national agreement in 1929 with full-fashioned manufacturers. The new agreement which came before them for action covers all of the auxiliary operations in manufacture while the present pact applies only to leggers, footers and toppers.

It is believed these changes may result in doubling the number of members. In view of this the first topic discussed develops more importance and the address of Dr. Paul H. Douglas, University of Chicago, now conducting a survey of causes of unemployment, who spoke on subject of unemployment insurance, attracted attention. The first step in making this insurance effective for members it was decided would be to start raising a fund.

To Organize Dealers in Wiping Cloths

Dealers, washers and importers of wiping cloths from all sections of the United States and Canada will meet at the Congress Hotel, Chicago, on Monday and Tuesday, July 14 and 15 for the purpose of organizing an association embracing the above mentioned groups, which organization will operate as a Division of the National Association of Waste Material Dealers, Inc. There will be general sessions throughout both days. There will also be group meetings in which dealers, washers and importers will meet separately to consider some of the problems facing the industry.

The new tariff just passed is going to bring changed conditions and the Chicago meetings are going to furnish an opportunity for a most thorough consideration of problems and conditions which face the industry at the present time. The organization committee has been hard at work preparing plans to be submitted for approval at the organization meeting, which if adopted are sure to prove of substantial value to those in the industry.

Chas. M. Haskins, secretary of the National Association of Waste Material Dealers, Inc., New York, is acting as secretary of the organization committee.

To Display Foreign Cloths at Greenville Show

GREENVILLE, S. C.—One of the features of the Southern Textile Exposition, to be held here in October, will be the display of foreign cloths from Clemson College. Dr. Charles E. Mullin is now in Europe where he will obtain additional specimens to be included in the exhibit. Some of the important examples which will be shown are: rayon fabric printed designs, dusted with metallic powder; lamicel, a new fabric made by laminating rayon upon sheets of cellophane, for lamp shades, screens and box coverings; tapa cloth, made from the inner bark of the mulberry tree; Japanese stencil work on cotton; Chinese jacquard hand embroidery; handmade German laces; old type Chinese mandarin dress, hand embroidered; hand blocked Japanese printing on linen; Persian batik, a design of unbelieveable variety and richness of color; batiks from Java and France; jacquard woven pictures in silk in black and white, and also in colors; and French featherweight pleated chiffon, in dyed and colored designs.

Planning Fall Conference of Cotton and Dress Trades

Plans for the annual fall trade conference of cotton manufacturers and manufacturers of cotton dresses were discussed at a meeting of The Cotton-Textile Institute committee on arrangements on June 23.

Details as to the date and place of the conference are to be determined. It is understood that the date will be arranged to fit in with the proposal for a single opening date for converters and selling agents now under discussion with the National Association of Cotton Dress Manufacturers.

It was the consensus of opinion that in view of the advanced position established by styled cottons this season, an opportunity is now at hand to enlarge scope of conference and style exhibit.

Army Will Buy Textiles

PHILADELPHIA.—Army Quartermaster Depot will open proposals July 18 to supply them with 54,754 yd. olive drab melton cloth, 16 oz., 56 to 58 in. wide, conforming with specifications 8/61B. July 14 the depot will open bids to supply them with 28,263 yd., cotton uniform cloth, Albert twill, 33 in. wide, conforming with specifications 6-100.

Silk Ass'n Committee to Probe Unfair Returns

Appointment of a committee to investigate unjustifiable returns of merchandise in the silk industry was authorized at a recent meeting of the executive committee of the Broad Silk Manufacturers' Division of the Silk Association of America, Inc., held at the association headquarters in New York. The committee will be appointed by Paul C. Debry, chairman of the division.

Recommendation was made that the standard methods for examination of finished broad silk, which were submitted to the meeting, be referred to members for comment and suggestion.

Veterans Honored At Philadelphia Wool Outing

PHILADELPHIA.—Members of the wool trade paid tribute to the memory of two former members at the annual outing of the Philadelphia Wool & Textile Association June 20, when they stood in silence, honoring late Charles J. Webb and Alfred Wolstenholme. Herbert K. Webb, president of the association, was toastmaster and introduced the oldest members of the association, among these being Reuben Windisch, head of R. Windisch & Co., who has been identified with wool business for close to half century, William Johnston, who is Mr. Windisch's senior in service by a few years, and Joseph Lord, Chas. J. Webb & Sons Co., Inc., also a wool merchant for half century.

Wool Association Distributes Charts

A set of six comprehensive charts showing fluctuations of wool prices as indicated by the course of domestic wool values and also as indicated by the relation of domestic wools to foreign top prices is being distributed by the National Association of Wool Manufacturers. That the multitudinous details were difficult to handle in graph form is evident from a most casual glance at the charts, which presuppose for their interpretation at least as much expert intelligence as was necessary in their construction. The influence of the several tariffs is indicated in the relation between domestic wool prices and those of Bradford tops. It is a painstaking and valuable piece of reference work, reflecting the alertness of the great organization, and much of the credit belongs to its secretary, Walter Humphreys and his assistant, John Bruce McPherson.

Report of Carl Forstmann Memorial Foundation

The report of the Carl Forstmann Memorial Foundation for activities covered during the 1929-1930 period has just been issued. During this time the activities have fallen into two chief classifications: the granting and administering of loans to college and other students, and the conducting of evening school courses for Forstmann & Huffmann Co. (Passaic, N. J.) employes and members of their families. During the period, the foundation made loans to 69 students. The first night courses were started in November, 1929, and there was a total enrollment of 428.

The foundation was established by Mr. and Mrs. Julius Forstmann in 1922 in memory of their son, Carl.

Jerome Lewine Renominated As Silk Exchange Head

Jerome Lewine of H. Hentz & Co., president of the National Raw Silk Exchange for the last year, was renominated for that office in the report filed last Tuesday by E. A. Canalizo, chairman of the nominating committee. Other officers renominated were as follows: first vice-president, Douglas Walker; second vice-president, Charles Muller; treasurer, August Schierenberg.

Louis Kahn, Floyd Y. Keeler, Allan Macfarlan, and Albert Tilt were nominated for members of the board of governors, to serve three years. The annual election will be held July 15.

New Bedford Textile School Display

NEW BEDFORD, MASS.—The handiwork of New Bedford Textile School students came in for much favorable comment during the display at the school, when several hundred relatives of the students, visitors from out of town, and cotton mill men took the opportunity of viewing the exhibits.

The work of Dorothy Tabor, Dorothea Perry and Mildred Hoxie, three of the girl students doing special work in the designing department, received favorable comment.

Pequot Mills Reproduces 17th Century House

On June 25, the Pequot Mills of the Naumkeag Steam Cotton Co., Salem, Mass., formally opened the reproduction of a 17th century house erected on the mill green. The Pequot House has been built to give visitors to the Tercentenary Celebration an exact idea of how people lived in the early days of the Massachusetts Bay Colony. It reproduces authentically the house and goods of a prosperous merchant of those days.

Amoskeag Receives Army Serge Contract

PHILADELPHIA—Army Quartermaster opened bids June 19 to furnish them with 5,000 yd. olive drab serge, the following bids being opened: Walther Mfg. Co., $2.61; J. P. Stevens Co., $2.42½; Brighton Worsted Mills, $2.49; Amoskeag Mfg. Co., $2.35; Gera Mills, $2.45; Merrimac Mfg. Co., $2.46; Wm. Whitman Co., $2.46; Livingston Worsted Co., $2.48½; American Woolen Co., $2.36 and Botany Worsted Mills, $2.46½. Award of item was made to Amoskeag Mfg. Co., at their bid figure.

Durene Stylist on Tour of Knitting Mills

Miss Kathryn I. Day, stylist of the Durene Association of America, is making a survey of knitting mills in the Middle-West, visiting mills in and near Chicago, Milwaukee, Minneapolis, Kenosha, and Grand Rapids. Miss Day confers with mill executives and technicians on the staple and new uses of Durene yarns in knitted wear.

Business News

Tolhurst Machine Works Again an Independent Corporation

With the merger of the General Laundry Machinery Co. and the American Laundry Machinery Co., the Tolhurst Machine Works, Inc., Troy, N. Y., which has been associated with the General Laundry Machinery Co. since 1927, becomes an independent corporation.

The Tolhurst Machine Works, Inc., which was founded in 1852, has been long and prominently identified with the textile industry through its engineering development in connection with centrifugal extraction. Its position in the industry remains unchanged except insofar as the move enhances the engineering and production resources of the Tolhurst Machine Works, Inc. The Tolhurst Machine Works will continue to produce a complete line of centrifugal extractors for all branches of the textile industry.

W. R. Burrows Chairman of G. E. Manufacturing Committee

Vice-President Cummings C. Chesney, chairman of the manufacturing committee of the General Electric Co., will be relieved at his own request on July 1, and will be succeeded by Vice-President William R. Burrows.

Since May 25, 1927, when Messrs. Chesney and Burrows were elected vice-presidents, they have been serving together as manufacturing officials of the company.

General Dyestuff Corp. Announces Executive Changes

Col. Herman A. Metz is now chairman of the board of Directors of General Dyestuff Corp. and Ernest K. Halbach has assumed the presidency of the company.

Col. Metz has been identified with the dyestuff industry for many years. Mr. Halbach has been associated with one concern and its successors throughout his business career of 31 years. He is a native of Philadelphia, Pa.

New Minneapolis Address for B. F. Sturtevant Co.

The B. F. Sturtevant Co. of Hyde Park, Boston, Mass., manufacturers of blowers, heaters and ventilators of all kinds, announce the removal of their Minneapolis branch office from 1024 Metropolitan Life Building to 874-875 Northwestern Bank Building. P. A. Dwyer will remain in charge.

H. W. Petty Pittsburgh Sales Manager for Wagner Electric

Wagner Electric Corp. of St. Louis, Mo., announces the appointment of H. W. Petty as branch sales manager for Pittsburgh territory with office in Pittsburgh. From April 1925 until the present time he served as salesman in the Detroit territory, confining his major efforts to Detroit.

R. & H. Hold Sales and Service Convention

The Roessler & Hasslacher Chemical Co., New York, N. Y., held its annual sales and service convention at Niagara Falls on June 9, 10, 11. In attendance were executives from the company's manufacturing plants and New York offices, district sales managers, sales and service men from various branches in the United States, Canada and Mexico. The convention was presided over by Dr. H. R. Carveth, president of the company.

Activities of the convention included inspection tours about the Niagara Falls plant. The business sessions were featured by pertinent papers discussing manufacture, service and sales of R. & H. products.

The annual banquet was held on the evening of June 10 at the General Brock Hotel, Niagara Falls, Ont. The speaker of the evening was J. E. Hatt, general manager, du Pont Cellophane Co., New York, N. Y.

Crane Co. Celebrates Its 75th Anniversary

Simultaneously, in widely scattered parts of the world, 85,000 people will celebrate on July 3 the 75th anniversary of the Crane Co. This firm was founded by R. T. Crane in Chicago on July 4, 1855, and the business has grown into a world-wide organization, manufacturing and distributing plumbing and heating materials and industrial valves and fittings.

The chief celebration is in Chicago, where approximately 1,000 veteran employes, and officials of the company and their families, will gather to help nearly 10,000 employes in Chicago and their families and friends, observe the day. At the same time, other employes will celebrate the event in Rangoon, Burma; Paris, London, and Colombo, Ceylon; in Brazil, Mexico, and Cuba; and also in many cities of the United States and Canada.

The Chicago celebration will begin June 29 and continue to July 4, with the picnic on July 3 as the chief event. All Crane offices, branches, exhibit rooms, and warehouses throughout the world will be closed on that day.

Change in Name of Blaw-Knox Export Organization

Blaw-Knox International Corp. is the new name for the export organization of the Blax-Knox Co., which was formerly known as Milliken Brothers-Blaw-Knox Corp., which in turn succeeded the original Milliken Brothers Mfg. Co.

This change in name is due to the larger scope of the company's activities and thoroughly identifies the export company as such. The change of name embraces no change in personnel and the offices will remain as formerly, in the Canadian-Pacific Building, New York.

Blaw-Knox International Corp. handles all the products of the Blaw-Knox Co. in South America, the West Indies and other parts of the world where the Blaw-Knox Co. is not otherwise represented.

American Arch Co. Moves Main Office

The American Arch Co., manufacturers of air-cooled walls and suspended arches for boiler furnaces and industrial furnaces, announces the removal of its main offices from 17 East 42d St. to the Lincoln Building, 60 East 42d St., New York.

Unemployment Plan for General Electric Workers

An unemployment plan for the General Electric workers, designed to make funds available for employes during times of need or unemployment, has been announced by president Gerard Swope. The money will be raised through equal contributions by the employes and the company. Many provisions in the plan are an outgrowth of suggestions from committees of leading workmen.

At the same time Mr. Swope announced a plan for the stabilization of employment by reducing to a minimum the cause and effect of unemployment. Rules are set down for all plants as to what to do and what not to do when business is either on the increase or work is falling off.

L. W. Chubb Appointed Director Westinghouse Research

L. W. Chubb, former manager of the radio engineering department of the Westinghouse Electric & Mfg. Co. has returned to the company as director of the Westinghouse Research Laboratories. For some months Mr. Chubb had been located in Camden, W. Va., as assistant to the vice-president of the Radio Victor Co.

Mr. Chubb is filling the position left vacant by the promotion of S. M. Kintner to assistant vice-president.

Obituary

James Reid Gibbs

James Reid Gibbs, connected with the Quaker Lace Co., Philadelphia, for over 30 years, and widely known among lace manufacturers, died at his home June 17. He was 59 years old. Surviving him are his widow, one daughter and a son. He was a member of the Manufacturers' and Fortnightly Clubs.

Joseph E. Lachapelle

Joseph E. Lachapelle, for 40 years an overseer for the Hamilton Woolen Co., Southbridge, Mass., died at his home in that town on June 1, following a long illness. He was 72 years old, a native of Canada and moved to Southbridge in 1870. He leaves a widow, two daughters and two sons.

Edward Appleyard

Edward Appleyard, for forty-seven years superintendent of the Broadhead Worsted Mills, Jamestown, N. Y., died at his home in that city recently at age of 90, following an illness of several weeks. A native of England, he came to the United States in 1870 and established the Jamestown Alpaca Mills, one of the first textile mills in western New York. In 1876 he became superintendent of the Broadhead mills, and retired in 1923.

Eli W. Van Brocklen

Eli W. Van Brocklen, glove manufacturer of Northville, N. Y., from 1897 to 1921, died last week in that village after a brief illness. During the early part of his life he was engaged in knit-goods manufacturing at Amsterdam, N. Y.

John J. Hallenbeck

John J. Hallenbeck, for 49 years underwear-department foreman for the High Rock Knitting Co., Philmont, N. Y., died at Hudson, N. Y., this week of complications developing from a fractured hip.

T. M. Flack

T. M. Flack, for the last 12 years overseer of weaving at the plant of the Marion Mfg. Co., East Marion, N. C., died suddenly at his home on June 11. His widow and nine children survive.

We appreciate the confidence placed in us by the officials of

THE DELGADO MILLS, INC., of Wilmington, N. C.

and

THE IDEAL HOSIERY MILLS, of Maryville, Tenn.

in appointing us their Sole Selling Agents, and the responsibility imposed on us in the Marketing of their products.

We strongly believe there is a growing demand for "quality merchandise" and following our advice these Mills are now making finer grades and qualities in their New Lines.

Every Buyer of merchandise will be interested in the remarkable development of the New Lines produced by these Mills.

Amory, Browne & Co.

BOSTON NEW YORK SAN FRANCISCO CHICAGO

Selling Agents for
New England and Southern Mills

Cotton Piece Goods **Part-Wool Blankets**
Hosiery **Dress Goods**

Nashua Mfg. Co.
Nashua Mills
Jackson Mills
Suffolk Mills
Conestogo Mills

The Delgado Mills, Inc.
United Hosiery Mills Corp.
Pitman Mfg. Co.
Ideal Hosiery Mills

The Cleveland Worsted Mills Co.
(Women's Wear Division)
Indian Head Mills of Alabama
The Quinebaug Co.
The Wauregan Co.

THE NEWPORT COLORS

FOR WOOL

FAST
and
Level Dyeing

Newport Acid Anthraquinone
Blue R X O

Newport Acid Anthraquinone
Blue B G A
(Cyananthrols)

"What they do for others they can do for you"

NEWPORT
REG. U.S PAT. OFF.
"COAL TO DYESTUFF"

NEWPORT CHEMICAL WORKS, INC.
PASSAIC, NEW JERSEY

Boston, Mass.
80 Broad St.

Providence, R. I.
32 Custom House St.

Philadelphia, Pa.
437 E. Allegheny Ave.

Greensboro, N. C.
226½ No. Forbes St.

Canada
Castle Bldg.
Montreal, P. Q.

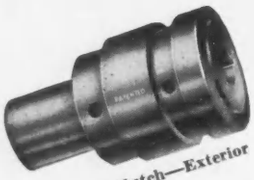
Chicago, Ill.
605 W. Wash. Blvd.

Greenville, S. C.
Chamber of Commerce Bldg.

Newnan, Ga.
186 Jackson St.

THE JOHNSON FRICTION CLUTCH

— IN —



Single Clutch—Exterior

The UNITED STATES

JAPAN

CANADA

ENGLAND

AUSTRALIA

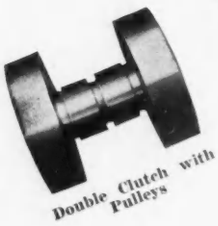
Single Clutch with Pulley

RUSSIA

FRANCE

GERMANY

Double Clutch—Exterior



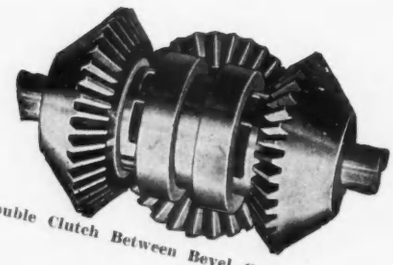
Double Clutch with Pulleys

In Fact, Almost
EVERY
COUNTRY
In The WORLD

The SUPER-
JOHNSON
FRICTION CLUTCH

Single Clutch Showing Working Parts

Is Increasing
Reliable
MACHINE
Operation
and Assisting
PLANT
ECONOMY



Double Clutch Between Bevel Gearing

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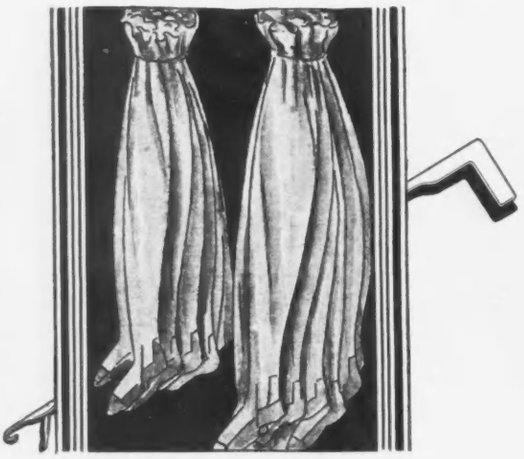

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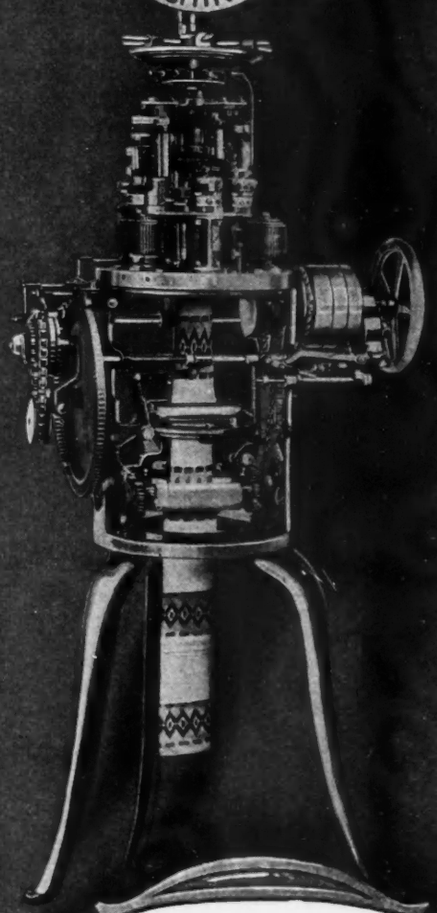

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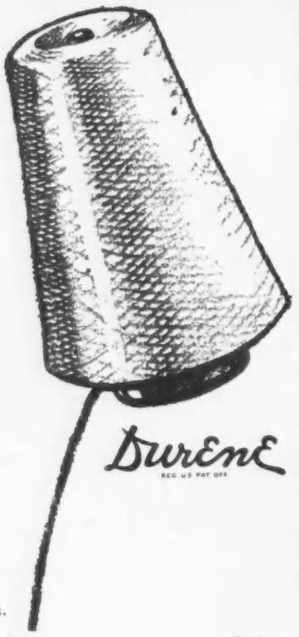

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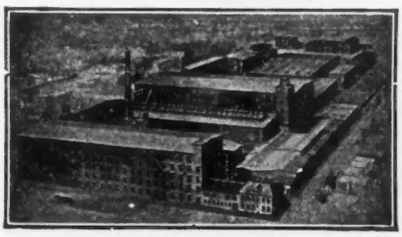

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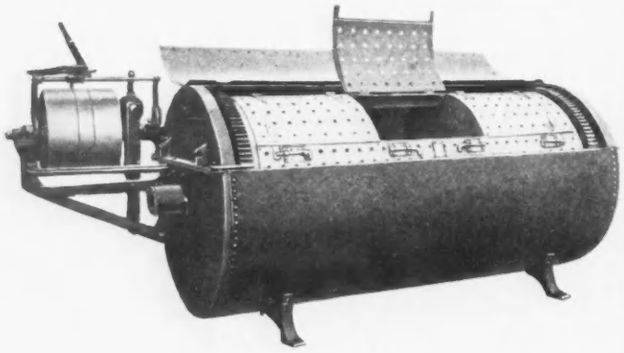

YEARS of rapid, thorough dyeing are built into this S T E E L ROTARY as is proved by the fact that some of the ROME machines were built twenty years ago are still in daily use.

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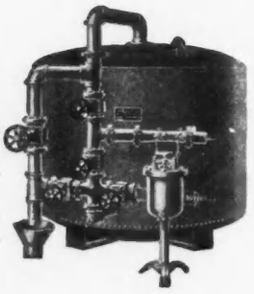

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Scott Testing Machines take the guesswork out of production forecasts.

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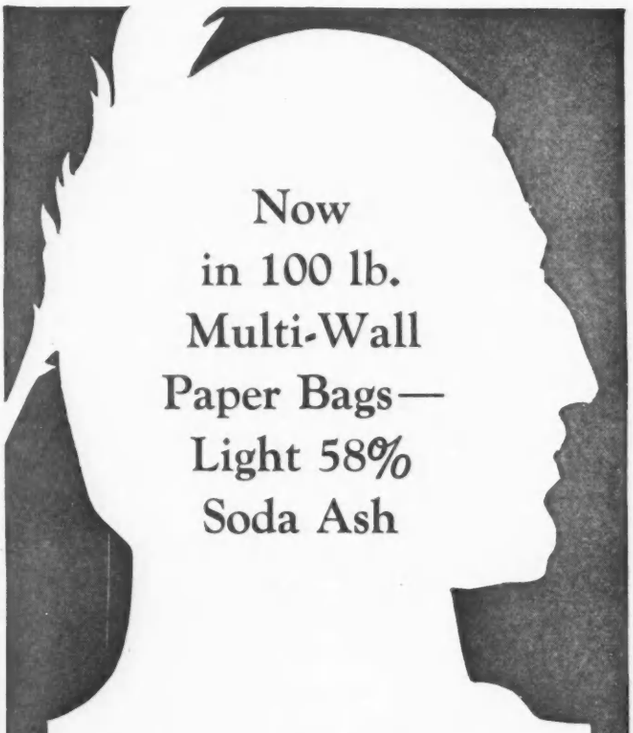

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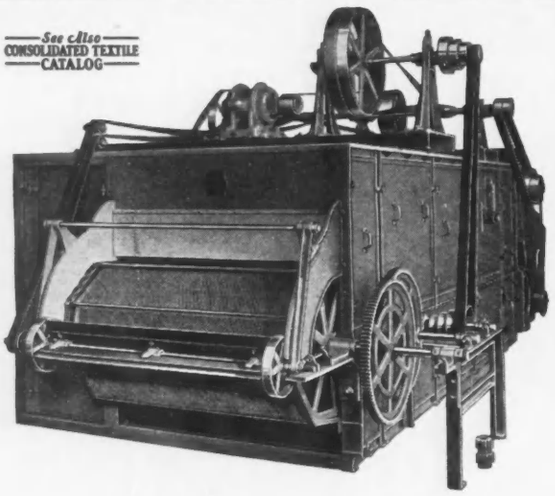

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Here are mentioned some of the specifications of construction of the Sargent Drying Machines.

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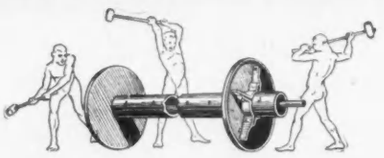
Builders of Wool Washing Machines, etc. GRANITEVILLE, MASS.



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Heads of all types—adjustable heads—our special "Redhead" flanges for paperless silk warps. All made of light, strong pressed steel. They cannot break. They will not spring or bend. They help to cut production costs.

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FOUR creative influences have been at work in the textile industry, shortening the period till . . .

"Happy days are here again!", as the song says. Each is making a definite contribution to the quickening progress of *your* business. Here they are, and if anyone still doubts these better times, let him study—Number Three—

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2—Synthetic fibres have blasted conservative traditions and through sweat and tears forced new methods and thinking upon us.

3—*Much new and improved equipment has been developed.*

4—Technical research has been stimulated until now we have the Textile Alliance Foundation at work.

And through it all, Textile World has carried the torch of these advancing ideas to all the industry, promoting these activities and stimulating their progress, by building new fires of hope and purpose.

But also right now a new note is being struck—an astonishing amount of new and improved textile machinery and equipment is being advertised. This new equipment was the outstanding feature of the recent Expositions in Boston and Philadelphia.

In a word—Machinery is Stepping Out!

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Textile World

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IF! YOU WANT AN EXTRACTOR

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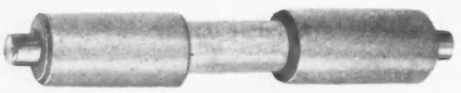
MODERN TEXTILE LUBRICANT

Better Lubrication at Less Cost per Month

Say Farewell to Cockled Yarn



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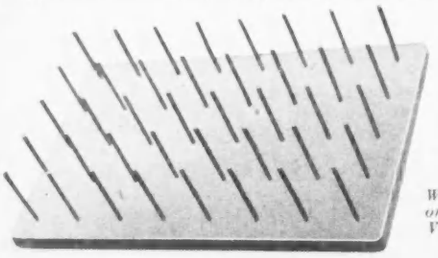
absolutely eliminate cockled yarn. Moreover, they increase the breaking strength. Easily adjusted for long or short draft spinning. Made of wood, steel, leather and felt—perfect in weight and resiliency. Just one spinning test will show you the value of McLeod Rolls—*Write for details.*



Write for information on our Perft-Locked Veneer One-Piece Pin Board.

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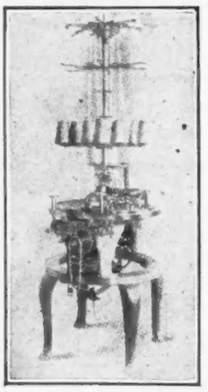

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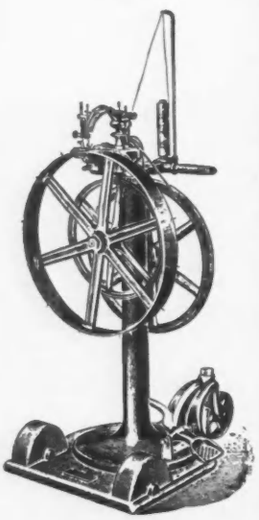

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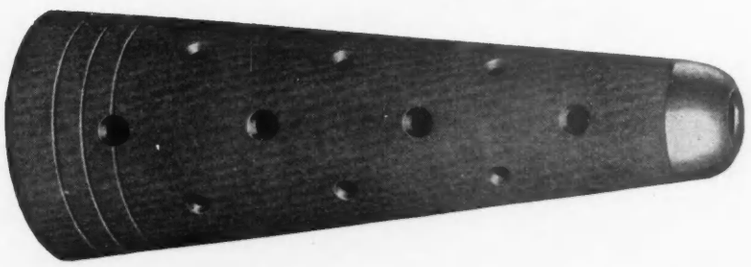

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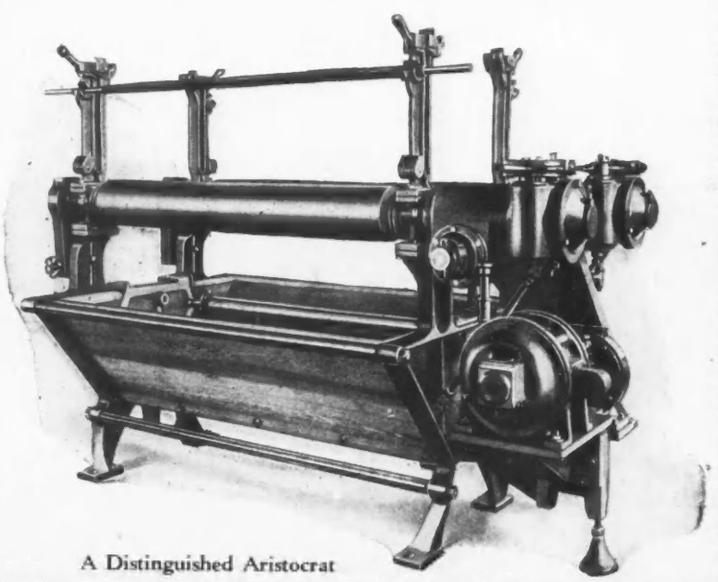

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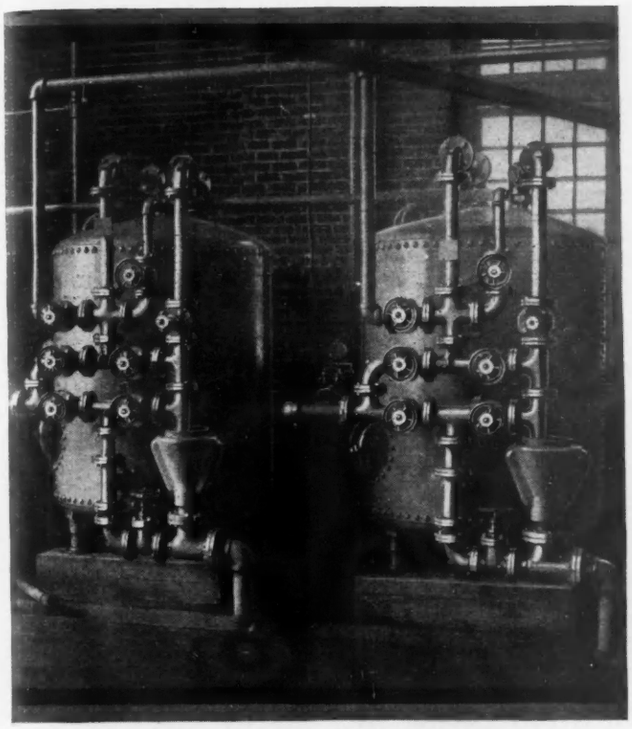

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In few industries is water softening so essential as in the Textile field.

The economical use of the 100,000,000 pounds of soap this industry uses every year, hinges on it.

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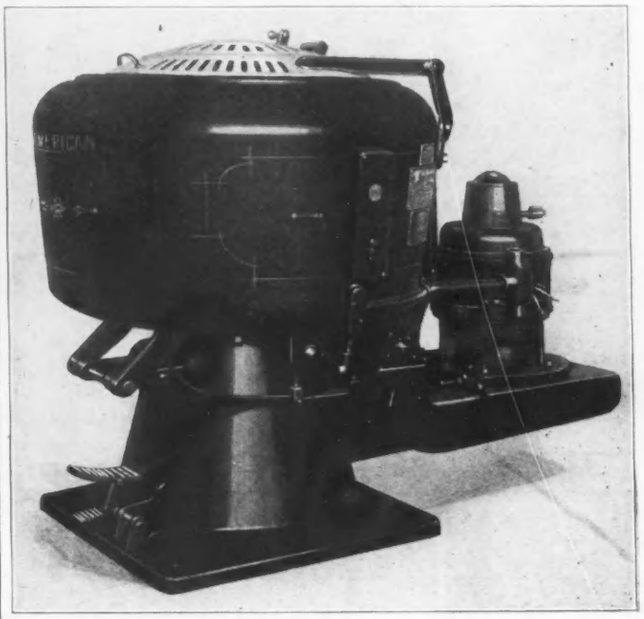
HIGH SPEED *for silk and rayon*



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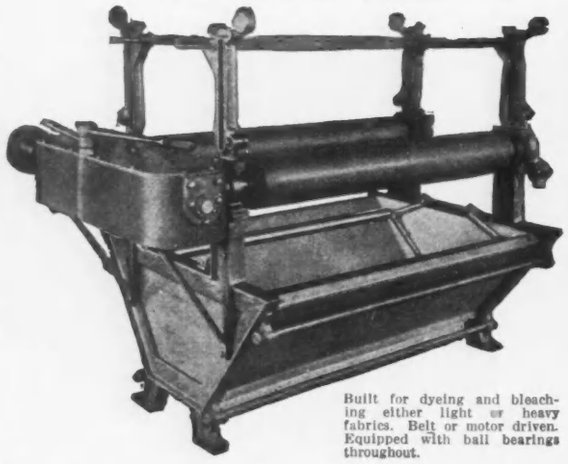
for SILK and RAYON



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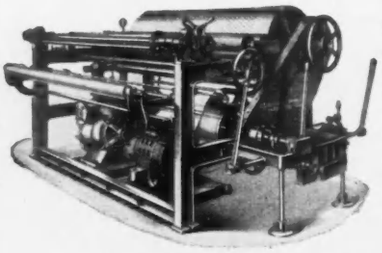

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TUBES

All Adolff Products have this mark.
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Tentering and Drying Machinery
For All Classes of
WOOLENS and WORSTEDS
PILE FABRICS, FELTS,
RAYONS

CHINCHILLA MACHINES
CRABBING MACHINES

See also CONSOLIDATED TEXTILE CATALOG

BARBER-COLMAN
AUTOMATIC SPOOLERS
HIGH SPEED WARPERS
WARP TYING MACHINES
WARP DRAWING MACHINES
HAND KNOTTERS

BARBER-COLMAN COMPANY
General Offices and Plant
ROCKFORD, ILL., U. S. A.

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CONES and TUBES

The good appearance, fit, balance and uniformity of Sonoco Cones and Tubes assures accurate winding and resulting packages worthy of a distinguishing imprint.

Keep your Name and Trade-Mark before your old customers and win the good-will of new ones by exclusively using Sonoco Products, imprinted for ready identification.

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Hamilton, Ont.

English Representative
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Romiley, Nr. Stockport, Eng.

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HARTSVILLE, S. C.
MANUFACTURER
CONES, TUBES, CLOTH-WINDING CORES AND SPOOLS,
Velvet Surface Cones, Underclearer Rolls, Dytex Tubes, Etc.
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79 Worth Street, N. Y.

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Formerly

N. SCHLUMBERGER & CIE

Guebwiller, France

ESTABLISHED IN 1808

Specialists in the manufacture of

Combing, Drawing & Spinning Machines

for Cotton, Worsted and Silk Waste

FRENCH SYSTEM

A Complete Service
for the
Textile Industry in Canada

OUR long experience in serving the Canadian textile industry in all its branches—mill construction, equipment and supply—is available to those now engaged in Canadian textile manufacture and to those who contemplate the establishment of a plant anywhere in Canada.

Mill Engineering, Mill Construction, Textile Machinery, Knitting Machinery, Water Rectification, Air Conditioning Equipment, Knitting and Weaving Yarns, Raw Silk, Raw Cotton

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LIMITED
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Head Office and Demonstrating Department:
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TANKS AND TANK LININGS, COILS, VALVES, FITTINGS AND DYEHOUSE ACCESSORIES IN MONEL, MOND METAL, COPPER, NICKEL, ETC.

SHOLES
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SHOLES
INCORP.
182 Lafayette St.
New York

Davis & Furber Machine Co.
NORTH ANDOVER, MASS.
TEXTILE MACHINERY
Card Clothing Napper Clothing

FRANKLIN MACHINE COMPANY
ENGINEERS—FOUNDERS—MACHINISTS
PROVIDENCE, R. I.
Ball Winding Machines, Yarn Dressers, Baling Presses, Spun Silk Machinery, Special Machinery, Shoe Lace Tipping Machines, Corliss Steam Engines.
TEXTILE PRINTING MACHINERY
Machinery for Dyeing Rayon in the Skein
Package Dyeing Machinery
See also CONSOLIDATED TEXTILE CATALOG

Angle and Sheet Steel Textile Mill Equipment
Chairs, Benches, Tables, Etc.
Write for Catalog "C-TW"
Angle Steel Stool Company
Plainwell, Michigan

FIG. 2 O.

LANE CANVAS BASKETS
The logical textile-mill container.

Lane cotton duck is always free from roughness, hence damage to silk and other delicate materials is eliminated. Light, durable.

Write for Catalog 105-T
W. T. LANE & BROS., *Mfrs.* Poughkeepsie, N. Y.

R. D. COLE MFG. CO.
NEWNAN, GA.
New York Office, 5 Beekman St.
TANKS - TOWERS - STANDPIPES - KIERS
BOILERS - CASTINGS - Monel Metal Work

Important Improvement in Worsted Spinning
Dustproof and Self-Lubricating Spinning Tube
saves oil, prevents clogging with dust and lint, thereby insuring longer life to the tubes, saves labor, maintains uniform speed, *and most important of all* makes PERFECT YARN.
JAMES H. SMITH CO., *Providence, R. I.*
Successors to BAMFORD & SMITH CO.
STEEL CAPS, SPINDLES, TUBES AND FLYERS—
Manufactured and Repaired.

WEIMAR BROTHERS
U. S. BINDING

We make a Specialty of Binding and Narrow Fabrics
TRADE MARK
Manufacturers of
Tapes, Bindings and Narrow Fabrics
2046-48 Amber Street, PHILADELPHIA, PA.

SHEEP SKIN
GILLEATHER
for TOP ROLLS
GILL LEATHER CO. SALEM, MASS

Heat CONTROL
Temperature Regulation for every process in the textile industry. Write for Bulletins.
2729 Greenview Ave., Chicago, Ill.
Offices in 37 other cities 4277
THE POWERS REGULATOR CO.

Emulsify Oil . . . . Softeners . . . . or starch . . . . Mix Meter and Spray Dyes in one operation

All these operations are efficiently performed in a single, compact motor driven apparatus, with assured uniformity and at a large saving in time, by means of

HINCKLEY
Emulsifying and Circulating Equipment

TRADE MARK

Made in three sizes in the following capacities—
"Baby Whale" .....3 gal. per min.
"Whale" .....6 gal. per min.
"Father Whale" .....8 gal. per min.

Write us for Circular.

HERBERT HINCKLEY, Inc.
Charlotte, N. C.

Mill Finishers Designed This IMPROVED CLOTH WASHER

The design of the Model G Cloth Washer is the result of fitting practical requirements to theory—the result of intimate study with Mill Superintendents and Finishers of the goods as they are handled in mills that follow progressive practices. Five advantages and improvements of practical value to the woolen mill are developed through this ideal design:

1. A standardized washer but adaptable to individual requirements.
2. Best quality tank cypress supported in heavy A-type iron frame.
3. Rust stain risk eliminated.
4. Lower power costs and lengthened life through roller chain drive.
5. Capacities up to 8 strings—400-800 lbs. per load.

Tell us what type of fabrics you want to process and size of load; our engineers may be able to show you a profitable advantage.

JAMES HUNTER MACHINE CO. Hunter NORTH ADAMS MASS.

If you use Preparation, Wet Finishing or Drying Equipment—ask Hunter!

JAMES HUNTER MACHINE CO., North Adams, Mass.
Please send us Bulletin No. 79 and complete data on the improved Model G Cloth Washer.
Name .....
Mill .....
Address ..... Position .....

Efficient Service

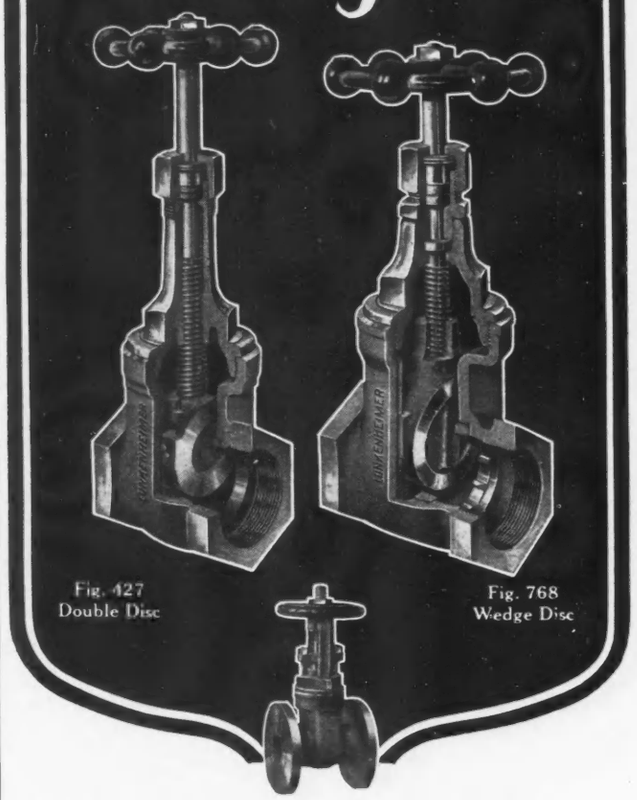


Fig. 427 Double Disc

Fig. 768 Wedge Disc

LUNKENHEIMER Bronze Gate Valves

continue year after year as the choice of thousands of Valve users who are primarily interested in low maintenance cost.

Due to accuracy of design and construction they embody all the requisites essential for economical and efficient service. Once installed they require very little attention, remaining tight under severe conditions.

The complete line offers a type and size to meet any requirement and facilitates standardizing on Lunkenheimer.

Distributors located in all industrial centers carry Lunkenheimer Valves and Engineering Appliances in stock.

Write for folder No. 550.

AMERICA'S BEST LUNKENHEIMER SINCE 1862

THE LUNKENHEIMER CO.
"QUALITY"
CINCINNATI, OHIO, U. S. A.
NEW YORK CHICAGO BOSTON PHILADELPHIA
PITTSBURGH SAN FRANCISCO LONDON
EXPORT DEPT. 318-322 HUDSON ST., NEW YORK

11012-30-04

Positions Wanted

Announcement—

With this issue the POSITIONS WANTED columns of TEXTILE WORLD are made available to advertisers for the publication of advertisements in *undisplayed* form, as shown below. This change is made to broaden the serviceability of these columns to both employers and employees, to whom we express our appreciation for past opportunities for service. We hope that both will find this new advertising a valuable aid in establishing contact with available men and vacancies throughout the textile industries.

The rate to be charged for undisplayed Position Wanted Advertisements is 5 cents a word, minimum $1.00 per insertion, payable in advance, with a discount of 10% if full payment is made in advance for four consecutive insertions.

Box number signatures, in care of our New York, Chicago or San Francisco offices, may be used. They will count as 10 words. Replies will be forwarded from any of these offices without additional charge.

Display space will continue to be available for Position Wanted Advertisements for which more prominence than the undisplayed form gives is desired. Spaces may range in size from the minimum of one (1) inch up to a full page thirty (30) inches. They are measured by the even inch in height by one, two or three columns in width

The rate for display space for Positions Wanted Advertisements is $5.00 per inch per insertion, or less, according to the total space to be used over one or more insertions. Box numbers may be used in display advertisements without additional charge.

Searchlight Department **TEXTILE WORLD**

POSITIONS WANTED

SUCCESSFUL hosiery dyer now employed, seeks connection offering opportunity for promotion. My experience consists of technical and practical dyeing and manufacturing. Capable of assuming charge of finishing and dyeing departments. PW-937, Textile World, Tenth Ave. at 36th Street, New York.

ASSISTANT designer in woolen mill. Position wanted by man 34 years of age, English, married. Worked on woolen and worsted goods. Familiar with machinery used in woolen mill. A No. 1 references. PW-1464, Textile World, Statler Bldg., Boston, Mass.

FOREMAN underwear finishing or sewing machine fixer. Position wanted by man 50 years of age, American, married. Worked on all kinds of men's and boys' underwear, all kinds of ladies' underwear, including rayon lingerie. Familiar with all makes sewing and flatlock machines. Good recommendations. PW-1467, Textile World, Statler Bldg., Boston, Mass.

OVERSEER woolen carding. Position wanted by man 35 years of age, American married. Worked on suitings, overcoatings, chinchillas, coverts, wool broadcloths and knit goods. Familiar with all makes cards, tape condensers and ring doffers. First-class recommendations. PW-1468, Textile World, Statler Bldg., Boston, Mass.

POSITION WANTED

Chemist and Salesman

University graduate, 30 years old, 8 years' experience selling and demonstrating dyestuffs, wishes position in vicinity of New York City, preferably as chemist in a textile plant.

PW-918, Textile World
Tenth Ave. at 36th St., New York City

POSITION WANTED

Full-Fashion Mill Supt. or Head Fixer

Sixteen years' experience in this line, also erect and Finish Reading Machines. Work on all make Machines. For further information write

PW-935, Textile World
520 No. Michigan Ave., Chicago, Ill.

POSITIONS WANTED

OVERSEER dyeing. Position wanted by man 50 years of age, Scotch, married. Worked on men's wear woolen and worsted suitings, overcoatings and plaid backs. Familiar with Sprague, Klauder-Weldon and Nussong machines. Good recommendations. PW-1469, Tetile World, Statler Bldg., Boston, Mass.

OVERSEER drawing, spinning, twisting, etc. Position wanted by man 50 years of age, English, married. Worked on all kinds of wool and hair, both for warp filling, knitting, etc. Familiar with Hall & Stells, Prince Smith, Collins, Saco-Lowell machines. Good recommendations. PW-1465, Textile World, Statler Bldg., Boston, Mass.

OVERSEER wolen weaving. Position wanted by man 44 years of age, American, married. Worked on all classes of fancy woolens and cotton warps. Familiar with C&K and Crompton looms. A-1 recommendations. PW-1444, Textile World, Statler Bldg., Boston, Mass.

OVERSEER cotton weaving. Position wanted by man 45 years of age, American, married. Worked on all classes of cotton goods. Familiar with Draper, Stafford, C&K looms, gem heads, dobbies, etc. First-class recommendations. PW-1445, Textile World, Statler Bldg., Boston, Mass.

OVERSEER cotton or rayon weaving. Position wanted by man 50 years of age, French, married. Worked on all kinds of plain cotton goods, and rayons. Familiar with Draper, Stafford automatic and Stafford box looms. A No. 1 recommendations. PW-1458, Textile World, Statler Bldg., Boston, Mass.

WOOLEN mill superintendent. Position wanted by man 38 years of age, American, married. Worked on all kinds of fancy woolens. Have general knowledge of all woolen mill equipment. First-class references. PW-1462, Textile World, Statler Bldg., Boston, Mass.

OVERSEER woolen spinning. Position wanted by man 44 years of age, American, married. Worked on everything which can be run on a woolen mule. Familiar with D&F and J&B mules. Good recommendations. PW-1460, Textile World, Statler Bldg., Boston, Mass.

OVERSEER beaming or slashing. Position wanted by man 50 years of age, Scotch, married. Worked on tickings, towelings, ginghams, sheets, carpet yarns, etc., cotton wool and jute. Good recommendations. PW-1452, Textile World, Statler Bldg., Boston, Mass.

SUPERINTENDENTS OVERSEERS

Available for any department of mill work. Manufacturers may learn of suitable men upon application to

C. T. DONLEVY
1427 Statler Bldg., Boston, Mass.

POSITIONS WANTED

OVERSEER woolen carding or carding and spinning. Position wanted by man 50 years of age, American, married. Worked on wool, shoddy, cotton, silk and rayon. Familiar with D&F, Lombard and Furbush cards. First-class references. PW-1466, Textile World, Statler Bldg., Boston, Mass.

OVERSEER weaving, second hand in woolen or worsted mill. Position wanted by man 43 years of age, American, married. Worked on fancy woolens and worsteds. Familiar with C&K box looms. Good recommendations. PW-1463, Textile World, Statler Bldg., Boston, Mass.

SUPERINTENDENT or designer in woolen mill. Position wanted by man 36 years of age, Protestant, married. Worked on all kinds of woolens and worsteds. Familiar with all machinery used in the manufacture of men's wear fabrics. First-class references. PW-1457, Textile World, Statler Bldg., Boston, Mass.

SUPERINTENDENT of shoddy mill, overseer picking or assistant superintendent. Position wanted by man 35 years of age, American, married. Worked on all grades of wool and rags, shoddy, etc. Familiar with Dodge rag pickers, Kitson rag pickers, Hunter dryers, Sargent Burr pickers and Curtis & Marble mixing pickers. A No. 1 recommendations. PW-1461, Textile World, Statler Bldg., Boston, Mass.

OVERSEER woolen or worsted finishing. Position wanted by man 39 years of age, Scotch, married. Worked on jerseys, broadcloths, bolivias, chinchillas, plaid backs, cassimeres, cotton worsted, flannels, etc. Familiar with all makes finishing machinery. First-class recommendations. PW-1459, Textile World, Statler Bldg., Boston, Mass.

ATTENTION

Cotton Yarns Mills!

First class South American house, (Buenos-Aires) established 40 years, available to represent American Cotton Yarn Mill in Argentina. Boston Bank references furnished.

RA-939, Textile World
;10th Ave. at 36th St.,

Positions Vacant

Required Shortly

Assistant weaving superintendent for silk weaving department of large factory. Experienced properly trained man about thirty years of age. Full particulars in confidence to

P-933, Textile World
Tenth Ave. at 36th St., New York City

EXPERIENCED MAN

to take charge of examination and commercial classification of finished fabrics in this department of large silk mill. Must be used to this kind of work.

P-934, Textile World
Tenth Ave. at 36th St., New York City

Experienced Man

WANTED

with thorough grounding in textile winding operations of all kinds, as assistant to General Superintendent of large plant working on fine counts and super quality yarns. Other assistants are employed, but there is opportunity for advancement. Man aged about thirty preferred. State Salary and full particulars when replying to

P-932, Textile World
Tenth Ave. at 36th St., New York City

WANTED

FULL FASHION FIXER

by old New England Firm. One experienced with all kinds of machines, Reading, Lieberknecht, Hilscher, Schubert & Salzer—Jacquard Lace. Only first-class fixer need apply.

P-922, Textile World
Tenth Ave. at 36th St., New York City

MASTER DYER

Eastern Finishing Plant handling cotton, rayon and silk piece goods has an opening for good man with thorough experience in vat dyeing and dyeing for discharge printing. None others considered. Technical training helpful. Application must state age, experience, salary desired.

P-928, Textile World
Tenth Ave. at 36th St., New York City

Dividend Notice

NASHUA MANUFACTURING COMPANY
Dividend on Preferred Stock

A quarterly dividend of 1¾ per cent on the Preferred Stock has been declared payable on Tuesday, July 1st, 1930, at the office of the Transfer Agents, the State Street Trust Company, Boston, Massachusetts, to holders of Preferred Stock of record June 25, 1930.

ROBERT AMORY, Treasurer.

Boston, June 24, 1930.

DYER WANTED

Dyer with broad practical experience combined with thorough technical knowledge to take charge of large Pile Fabric Dyehouse handling Mohair, Wool, Cotton, Rayon, Silk and Piece Goods. Reply stating education, age and detailed practical experience.

P-902, Textile World
Tenth Ave. at 36th St., New York City

Folding Room Foreman

Textile piece goods finishing plant near New York has opening for capable inspection and folding room foreman. Thorough cotton and rayon experience essential. Apply in writing stating age, training and salary desired.

P-929, Textile World
Tenth Ave. at 36th St., New York City

Mills—Properties

For Sale—Rent—Wanted

Notice To Advertisers!

Owing to the Holiday July 4th, the *"Searchlight"* pages of the July 5th issue of

TEXTILE WORLD

will close one day in advance of the regular schedule.

Advertisers will be cooperating with us by sending new advertisements or changes of copy early.

FINAL CLOSING TIME

5 P.M. Tuesday, July 1st.

WANTED

10,000 SPINDLE COARSE YARN MILL

We have a possible purchaser for a mill located either North or South to spin yarns from 6s to 14s. Price must be low. Give full specifications as to condition of machinery, age and type of equipment and price.

MILL PROPERTY DEPARTMENT; BRAGDON, LORD & NAGLE CO.
1427 Statler Building, Boston, Mass.

Contract Work To Let

WANTED

Small Full Fashioned Mill

to make 5 or 7 end, 39 also 42 gauge, Ladies Hosiery in Grey. Will furnish silk. For full particulars write

STRUTWEAR KNITTING COMPANY
Minneapolis, Minn.

FOR SALE OR RENT

CONCRETE BUILDING

Beautiful two story daylight reinforced, absolutely non combustible, 20,000 sq.ft. Especially adapted for textile or other clean industry. Centrally located in Easton, Pa.

Robins Silk Mfg. Co., Inc.
501 Seventh Avenue, N. Y.

For Sale EQUIPMENT Wanted

See advertisements on page following

For Sale : EQUIPMENT : Wanted

Extractor Bargains

Rebuilt and Tested in Our Own Shops at Newark, N. J.

2—60-in. Copper Basket Motor, Belt Driven.
2—48-in. Tolhurst copper baskets.
3—40-in. Tolhurst copper baskets.
30—32-in. to 12-in. sizes, copper baskets, standard makes.

Truck and Skein Dryers Pumps, Boilers, Copper Kettles

CONSOLIDATED PRODUCTS CO., Inc.
13-16 Park Row, N. Y. C.
Barclay 0600

The ELECTRIC SERVICE CO. Inc.

America's Used Transformer Clearing House
212 Walnut Street Cincinnati, Ohio

TRANSFORMERS

We carry a stock of approximately 4000 transformers of a total capacity of about 100,000 kva., in sizes from 1 to 1000 kva. and from 110 volts to 66,000 volts. We specialize in the rewinding and repair of transformers, any size and any specifications. All work positively the best and guaranteed as such. We will show you a saving of from 30% to 60% of the cost new transformers!

Send for our monthly bulletin, showing complete lists of transformers on hand, and our prices for rewinding transformers.

We Buy Modern Type Transformers—Any Size—Any Quantity

Bargain for Cash

10—54, 48, 40, 36 inch Tolhurst, Fletcher, American Centrifugal Extractors.
20—30, 28, 26, 24 and 20 inch American, Adam, Troy, Centrifugal Extractors.
2—2 Truck Skein Yarn Dryers.

Send for Complete Lists!

STEIN-BRILL CORPORATION
25 Church Street, New York City
Barclay 4851

JOHN J. McCLOSKEY, Inc.

MANUFACTURERS AND DEALERS

REBUILT TEXTILE MACHINERY

WOOLEN—WORSTED—COTTON

Philadelphia Office
128-130 Chestnut Street

NEW AND USED

Factory & Warehouse
Collingswood, N. J.

HARRY STEPHENSON

IMPORTER, DEALER AND MANUFACTURER

TEXTILE MACHINERY AND APPLIANCES

NEW AND USED

146 SUMMER ST., cor. High St., BOSTON, MASS.

FOR SALE

2—SMALL SIZE TOMPKINS TABLES.
9—MEDIUM SIZE TOMPKINS TABLES.
2—JUMBO TOMPKINS TABLES.
LARGE EQUIPMENT ON TOMPKINS PARTS.
5—CAMPBELL CLUTE TABLES, LARGE SIZE.
32—OSWALD LEVER WINDERS, 24 SPINDLE, LARGE BOBBINS.

EDWARD MOSKOWITZ, INC.
13 Christopher Ave., Brooklyn, N. Y.

MARTIN * HORSFALL * DEGAN

VALLEY FALLS MACHINERY CO.

Appraisers and Dealers

New and Used Woolen and Worsted Machinery of All Kinds

WE HAVE WHAT YOU WANT

VALLEY FALLS, R. I.

FOR SALE

BACHWASHER

Latest type Taylor, Wordsworth 2-bowl with 12 cylinder, three-fan dryer and double gill box.

MICHAEL KERWIN
128 Chestnut St., Philadelphia, Pa.

FOR SALE

24 S. & W. B-7 Machines 3½" 220 n., 7 step stripers.
40 S. & W. B-5 Machines 3½" 220 n.
90 S. & W. B-3, 2½" to 3½" sizes.
50 Banner Machines 3½" 220 n., 240 n.
2 Tolhurst Extractors, 20", 32".
2 Smith Drum 50 lb. Dyeing Machines.
10 Fidelity Ribbers with Stripers, 3½", 3½"

JAMES SLAYBAUGH
5416 Lena St., Germantown, Phila., Pa.

FOR SALE CHEAP

15—Oswald Lever Winding Machines and 1—26 inch American Laundry Extractor, complete.

DORFMAN KNITTING MILLS, Inc.
568 Broadway, New York, N. Y.

WANTED

For Sale by going mill discontinuing the use of 200 Wildman Spring Needle Machines.

260 needle 3¾ inch cylinders with accessory equipment.

At a reasonable price.

FS-906, Textile World
Tenth Ave. at 36th St., New York City

WANTED

Type D Felt Loom 200-in. b.s. 12 harness, 4x1 box, equipped with a four cell magazine, center stop motion, and brake.

ARTHUR S. BROWN MFG. CO.
Tilton, N. H.

WANTED

KNITTING MACHINES

We are in the market for approximately thirty (30) Circular KNITTING MACHINES, 23 in. and 24 in. diameter, 24 and 28 cut. State specification, age and general condition. Write

W-936, Textile World
Tenth Ave. at 36th St., New York City.

"Opportunity" Advertising:

Think
"SEARCHLIGHT"
First!

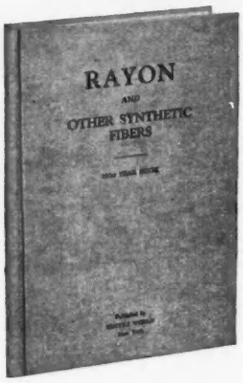
WANTED

FULL FASHIONED KNITTERS

Quantity of Reading, 42 gauge, 20-24 sections, with picot and pointex attachment.

W938, Textile World
Tenth Ave. at 36th St., New York City

1930 Year Book
RAYON
AND
OTHER SYNTHETIC FIBERS



The Year Book is compiled and published annually by *Textile World* for the purpose of recording in permanent form the latest developments in this fast moving industry.

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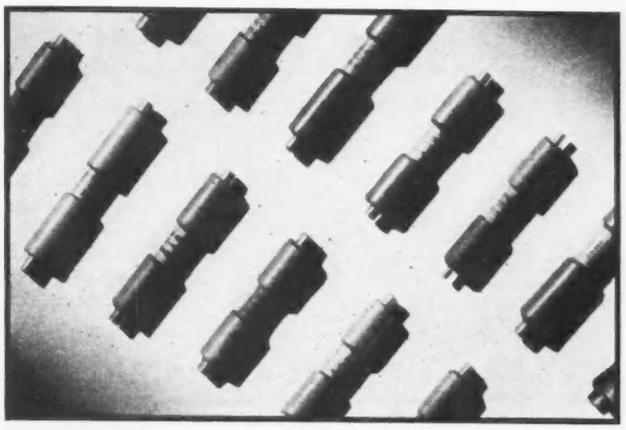
Dyes for Viscose Rayon; Use of Even-Dyeing Colors.
Formulas for Oiling, Sizing and Finishing Rayons.
Rayon Yarn Sizes and Equivalent Counts of Other Yarns.
Directory of World Rayon Producers.

$1.00 per copy

Sole Selling Agents

McGraw-Hill Book Co.

370 Seventh Ave., New York, N. Y.



True Records of Accomplished Purpose Speak for Themselves

THE popular Washburn Long Draft System using Washburn Wood Top Rolls has "Rolled Up" an enviable record.

We have the figures . . . down in black and white . . . culled from more than three million spindles so equipped in installations throughout the industry.

Definitely greater uniformity . . . fewer ends down . . . small initial outlay, added quality and Decreased Costs.

What these rolls have accomplished in other mills can be duplicated in your own mill.

Get all the facts. They form an absorbing story for progressive mill men. Do YOU need this Guaranteed Long Draft System? May we send on the data?

WASHBURN
IF IT'S ROLLS, WE MAKE THEM

224-234 No. Water St., New Bedford, Mass.

Southern Representatives: Gastonia Comber Needling Co., Gastonia, N. C.

WASHBURN
WOOD TOP ROLLS

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